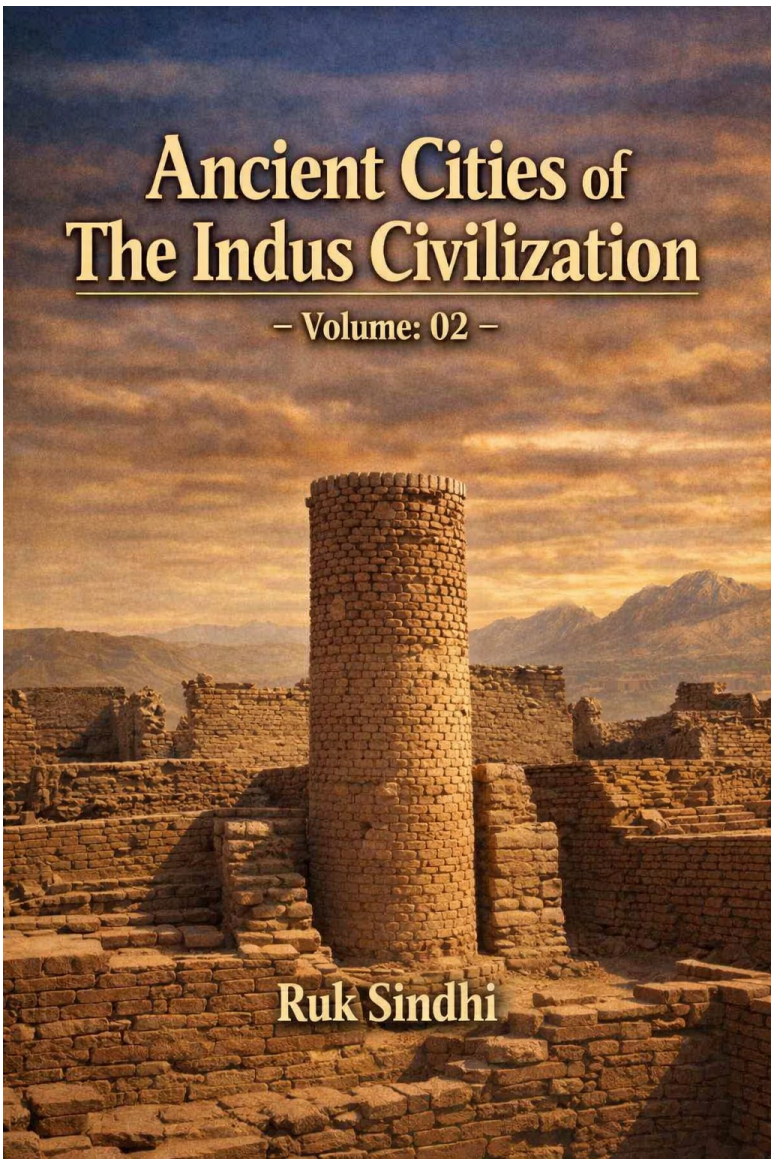
Ancient Cities of
The Indus Civilization
– Volume: 02 –
Ruk Sindhi

Ancient Cities of the Indus Civilization

Volume: 02

Ruk Sindhi

Karachi

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Preface

The Indus Valley Civilization is one of the oldest, most advanced, and best-organized civilizations in the world. It established enduring examples of urban planning, trade, industry, agriculture, culture, and intellectual development in human history. The cities of this civilization occupy a unique place in world history because of their sophisticated engineering, organized social structure, and extensive international trade networks.

In my book, **"Ancient Cities of the Indus Civilization,"** I present a detailed study of the archaeological sites and urban centers associated with the Indus Civilization. These sites are located not only in Sindh and other regions of Pakistan but also extend across India and Afghanistan. According to modern archaeological research, more than two thousand Indus Civilization sites have been discovered in Pakistan, India, and Afghanistan. While many important cities and settlements have been brought to light through excavation, a large number of sites still await comprehensive scientific investigation and archaeological exploration.

This book provides detailed and carefully compiled information on more than 136 ancient cities, villages, and settlements. The work consists of four volumes, each comprising approximately three hundred pages. Collectively, these volumes cover more than 136 archaeological sites associated with the Indus Civilization. Each volume systematically examines the historical background, archaeological remains, cultural connections, economic activities, and various aspects of urban life related to these ancient centers.

This book is not merely the outcome of academic research; it is also a serious effort to reintroduce the greatness of the Indus Civilization within a global context. Special attention has been given to urban planning, river systems, trade routes, cultural continuity, and interregional connections. Through this approach, readers will gain a deeper understanding of the historical significance of the Indus Civilization and its fundamental contribution to the development of human civilization.

"Ancient Cities of the Indus Civilization" is an important scholarly

resource for researchers, students, teachers, historians, and general readers alike. It is hoped that this work will encourage new directions in the study of the ancient history and cultural heritage of Sindh and the broader South Asian region, while also strengthening global awareness of the Indus Civilization.

This remarkable heritage of the Indus Civilization is not merely a legacy of the past; it is a luminous chapter in the intellectual, social, and cultural journey of humanity. Its scientific study, preservation, and promotion remain a collective responsibility for all of us.

Ruk Sindhi

Karachi, June 2026

Chapter One

Ancient Cities of the Indus Civilization

The Indus Civilization is one of the world's oldest and most prosperous human civilizations. Compared with its contemporary civilizations of Egypt and Mesopotamia, it left a deeper impact across a much wider geographical region. Modern archaeological excavations and scientific research have demonstrated that this civilization was not confined to a single limited area; rather, it represented a highly organized, peaceful, and advanced society whose foundations were laid approximately 9,500 years ago.

1. Geographic Extent and Present-Day Boundaries

When viewed through the lens of modern political and geographical boundaries, the archaeological sites of the Indus Civilization are found throughout all provinces of present-day Pakistan (Sindh, Balochistan, Punjab, and Khyber Pakhtunkhwa), as well as in parts of Afghanistan (such as Shortugai) and various states of India, including Gujarat, Rajasthan, Haryana, and Punjab.

Approximately 9,500 years ago, these regions collectively fell within the social, economic, and political sphere of influence of the people who developed and sustained the Indus Civilization. Archaeological surveys and excavations conducted to date have identified nearly 2,000 sites associated with this civilization. While some of these sites have undergone systematic scientific excavation, many others remain as unexplored mounds and ruins, still awaiting the revelation of the historical secrets concealed within them.

2. Chronology of the Indus Civilization

The Indus Civilization evolved through several developmental stages, progressing from an early village-based culture to a highly sophisticated urban civilization. Archaeological evidence suggests that many of its settlements remained occupied from approximately 7500 BCE until around 1500 BCE. For a clearer understanding of its historical development, the civilization may be divided into three major phases:

A. The Earliest Period: The Beginning of Rural Development

The oldest foundations of this civilization date back to around 7500 BCE.

- **Lakhan-jo-Daro:** Considered one of the earliest proto-urban and industrial developmental sites within the broader Indus cultural sphere.
- **Mehrgarh:** A site where human communities first abandoned a purely hunting-based lifestyle and began building permanent settlements, domesticating

animals, and practicing agriculture through the cultivation of crops and vegetables.
- **Kili Gul Muhammad (c. 4200 BCE):** This site reflects further cultural development during the early period, providing evidence for some of the earliest forms of pottery production.

B. Early Phase: The Rural Cultural Tradition (Early Harappan Phase)

This period extends roughly from 3500 BCE to 2300 BCE. During this era, communities learned to establish permanent villages and develop distinctive local cultural traditions. Important settlements of this phase include:

- **Amri (Dadu, Sindh):** Famous for its distinctive painted pottery and for illustrating the cultural evolution that preceded the urban phase.
- **Kot Diji (Khairpur, Sindh):** Known for its fortification walls and early use of baked bricks, features that later became fundamental elements of Indus urbanism.

C. The Zenith of Urban Civilization (Mature Harappan Phase)

This represents the most advanced and flourishing stage of the Indus Civilization. During this period, architecture, urban planning, drainage systems, and trade reached remarkable levels of sophistication. Major urban centers of this phase include:

- **Mohenjo-daro (Larkana, Sindh):** Renowned worldwide for its Great Bath, well-planned streets, and highly developed civic administration.
- **Harappa (Punjab):** Another major political and commercial center of the civilization, where numerous seals, tools, and other artifacts have been discovered.
- **Chanhu-daro (Shaheed Benazirabad/Nawabshah, Sindh):** A specialized industrial center known for the manufacture of carnelian beads, cosmetic items, and various craft products.

3. Foundations of Modern Scientific Research

In the second edition of this book, detailed research articles are presented on several of the most significant and foundational settlements of the Indus Civilization.

The study of these ancient sites is not based on legends or speculative narratives; rather, it relies upon evidence obtained through modern scientific methods, including radiocarbon dating, satellite mapping, archaeobotany, and other archaeological techniques. This book aims to guide readers through the remarkable heritage of the past—a heritage that remains a source of pride for Sindh and the wider region today.

Harappa

Introduction

The Indus Valley Civilization is regarded as one of the world's earliest urban civilizations, contemporary with the ancient civilizations of Egypt and Mesopotamia. This civilization extended across present-day Pakistan, northwestern India, and parts of Afghanistan. Among its many important archaeological sites, Harappa occupies a foundational and distinguished position. Harappa was not only one of the principal urban centres of this civilization, but the entire cultural tradition is also frequently referred to as the "Harappan Civilization," derived from the name of this site.

Located in the Punjab region of present-day Pakistan, near Sahiwal District, Harappa has yielded extensive archaeological evidence demonstrating the existence of an advanced urban, social, economic, and cultural system. Its carefully planned streets, baked-brick architecture, drainage infrastructure,

commercial organization, industrial production, and inscribed seals collectively testify to a remarkably sophisticated urban civilization of the ancient world.

Geographical Location and Environmental Context

Harappa is situated in the Punjab province of Pakistan, approximately 24 kilometres west of Sahiwal. The site was originally established near the ancient course of the Ravi River, although the river has since shifted several kilometres north of its former channel.

The riverine environment played a crucial role in sustaining agriculture, facilitating trade, and supporting dense human settlement. Fertile alluvial soil, abundant water resources, and access to communication networks enabled Harappa to flourish as a prosperous urban centre. Like many settlements of the Indus Valley Civilization, Harappa depended not only upon agricultural productivity but also upon riverine trade and regional connectivity.

The environmental conditions surrounding Harappa significantly contributed to the growth of a complex urban society. Seasonal flooding of nearby rivers enriched agricultural lands, making large-scale cultivation possible and supporting a substantial population.

Discovery and Archaeological Excavation

Interest in Harappa first emerged during the British colonial period in the nineteenth century. A considerable portion of the archaeological mound suffered destruction during the construction of the Lahore–Multan railway line, when ancient baked bricks from the ruins were removed and reused as railway ballast.

Systematic archaeological investigations began in the 1920s, when excavations at Harappa and Mohenjo-daro revealed the existence of an extensive and previously unknown ancient civilization. These excavations fundamentally transformed historical understanding of

early South Asian civilization and established the Indus Valley Civilization as one of humanity’s earliest urban societies.

Subsequent excavations led by distinguished archaeologists, particularly Jonathan Mark Kenoyer and other specialists, have contributed significantly to scholarly understanding of Harappa. Archaeological findings indicate that the settlement evolved through several developmental stages, including the Early Harappan, Mature Harappan, and Late Harappan periods.

Excavations have uncovered residential quarters, industrial areas, pottery workshops, burial grounds, seals, tools, figurines, and numerous artefacts that provide insight into the daily life and institutional organization of the city.

Chronological Development and Cultural Phases

Archaeological research divides the occupational history of Harappa into several major developmental phases:

1. Ravi or Hakra Phase (c. 3300–2800 BCE)

This represents the earliest stage of settlement, characterized by small communities and the gradual emergence of organized habitation. Pottery traditions and settlement patterns indicate the beginnings of social and economic complexity.

2. Kot Diji or Early Harappan Phase (c. 2800–2600 BCE)

During this period, Harappa experienced substantial growth. Urban planning became more visible, craft production increased, and the use of standardized mud and baked bricks became more widespread. Social organization appears to have grown increasingly sophisticated.

3. Mature Harappan Phase (c. 2600–1900 BCE)

This was the zenith of Harappa’s development. The city expanded to approximately 150 hectares and may have supported a population exceeding

twenty thousand inhabitants. Urban planning, commercial exchange, craft specialization, and civic organization reached extraordinary levels of complexity during this phase.

4. Transitional and Late Harappan Phase (c. 1900–1300 BCE)

This phase witnessed the gradual decline of urban institutions. Population density appears to have decreased, administrative organization weakened, and significant cultural transformations emerged as the once-flourishing urban system began to fragment.

Urban Planning and Architectural Features

One of Harappa’s most remarkable achievements was its sophisticated urban planning. The city was laid out according to a highly organized pattern, featuring streets arranged systematically and residential blocks carefully planned for functionality and accessibility.

Buildings were primarily constructed from standardized baked bricks, reflecting advanced engineering knowledge and a concern for architectural uniformity. Houses often included multiple rooms, courtyards, bathing spaces, and private wells, indicating a relatively high standard of living.

A particularly notable feature was the city’s drainage system. Covered drains carried wastewater away from homes and public spaces, demonstrating an impressive degree of civic planning rarely found in other ancient civilizations of the same period.

Unlike many ancient urban centres dominated by monumental palaces or temples, Harappa does not reveal clear evidence of centralized royal architecture. Instead, its urban structure suggests an emphasis on civic organization and collective management.

Social and Political Organization

The social structure of Harappa remains a subject of scholarly debate due to the

absence of deciphered written records. Nevertheless, archaeological evidence provides important clues regarding the organization of society. The remarkable standardization of bricks, weights, measures, and urban planning suggests the existence of an efficient system of administration and social coordination.

Some scholars argue that Harappan society may have been governed by a centralized administrative authority or an influential merchant elite, while others propose a relatively decentralized and cooperative civic structure. Unlike ancient Egypt or Mesopotamia, no monumental palaces, royal tombs, or explicit evidence of kingship have been identified at Harappa. This absence has led some researchers to suggest that political authority may have been distributed among governing councils or elite groups rather than concentrated in a single ruler.

Differences in residential structures indicate some degree of social stratification, though not necessarily extreme inequality. Certain buildings appear larger and more elaborate than others, possibly belonging to influential

families, administrators, or prosperous merchants.

Economy, Agriculture, and Craft Production

The economy of Harappa was fundamentally based on agricultural production, which formed the backbone of urban prosperity. Archaeological findings indicate that the inhabitants cultivated crops such as wheat, barley, rice, vegetables, and fruits. The fertile plains surrounding the Ravi River provided suitable conditions for sustained agricultural activity.

Animal domestication also played an important role in economic life. Evidence suggests that cattle, buffaloes, sheep, goats, and other domesticated animals were raised for food, transport, and agricultural labour. The humped bull appears frequently in Harappan imagery and may have held economic as well as symbolic importance.

Craft specialization represented another major feature of Harappan society.

Skilled artisans produced pottery, ornaments, tools, figurines, beads, and seals using materials such as terracotta, copper, bronze, shell, faience, and semi-precious stones.

Particularly notable is the production of bead jewellery made from carnelian and other valuable stones, reflecting advanced craftsmanship and technological expertise. Standardized weights and measures further indicate an organized economic system regulated by established commercial practices.

Trade and International Connections

Harappa occupied a strategic position within an extensive network of regional and long-distance trade. Archaeological evidence indicates commercial relations with ancient Mesopotamia, Elam, the Persian Gulf, and regions of South Asia.

Trade played a vital role in sustaining urban prosperity and facilitating cultural exchange. Harappan merchants

exported goods such as cotton textiles, agricultural products, beads, ornaments, and crafted materials, while importing valuable raw materials unavailable locally.

Semi-precious stones such as carnelian and lapis lazuli, metals, and luxury goods appear to have circulated through sophisticated trade routes extending across vast geographical distances. Evidence from Mesopotamian texts suggests interactions between Harappan merchants and urban centres in western Asia.

Some scholars propose that Harappan trading communities or procurement stations existed in Mesopotamia, functioning as commercial centres for exchange and communication. Trade not only contributed to economic development but also encouraged technological and cultural interactions among ancient societies.

Seals, Script, and Intellectual Traditions

Among the most significant archaeological discoveries at Harappa are its seals. These are generally small, square objects made primarily of steatite and engraved with intricate depictions of animals, human-like figures, and symbolic motifs.

The seals frequently contain inscriptions composed of short sequences of signs commonly referred to as the Indus script. Despite extensive scholarly efforts, this writing system remains undeciphered.

Researchers have proposed various interpretations concerning the language represented by the script. Some scholars associate it with Dravidian linguistic traditions, while others argue for alternative possibilities. However, no definitive conclusion has yet been reached due to the absence of bilingual inscriptions or sufficient textual evidence.

The script may have served administrative, economic, religious, or commercial functions. Its appearance on seals suggests possible uses related to

ownership, trade transactions, or institutional authority.

The intellectual achievements represented by the script, symbolic communication, and standardized measurement systems indicate a highly organized civilization possessing considerable administrative sophistication.

Religion and Cultural Life

The religious beliefs of Harappa remain partially speculative because of the lack of deciphered texts. Nevertheless, figurines, seals, and burial practices provide valuable insight into the spiritual and cultural life of the inhabitants.

Female figurines, often interpreted as fertility symbols or mother goddesses, have been discovered at Harappan sites. These artefacts suggest the possibility of religious practices associated with fertility, agricultural prosperity, or domestic worship.

Some seals depict a horned figure seated in a posture interpreted by certain scholars as resembling later yogic traditions or associated with a proto-Shiva deity. However, such interpretations remain debated and require caution due to limited evidence.

Burial customs also reveal aspects of social and religious beliefs. Graves containing pottery, ornaments, and personal possessions suggest ritual concern for the deceased and perhaps ideas relating to an afterlife.

Harappan culture additionally appears to have valued artistic expression, ornamentation, craftsmanship, and social customs associated with communal life.

Disease, Violence, and Social Stress

Bioarchaeological research conducted on skeletal remains from Harappa provides important evidence concerning health conditions and social challenges.

Studies indicate the presence of diseases such as leprosy and tuberculosis among certain segments of the population. Skeletal injuries also suggest episodes of physical trauma, including fractures and wounds that may have resulted from interpersonal conflict or violence.

Interestingly, evidence of trauma and disease appears to increase during the later phases of Harappan civilization. Some researchers interpret this pattern as reflecting social instability, resource scarcity, or the weakening of established urban institutions.

The deterioration of public health conditions may have coincided with broader societal disruptions during the civilization’s decline.

Causes of Decline

The decline of Harappa remains one of the most debated topics in South Asian archaeology. Earlier theories emphasizing violent invasions—particularly the so-called Aryan invasion

hypothesis—have largely been rejected by contemporary scholarship.

Modern archaeological and environmental research suggests that Harappa's decline likely resulted from multiple interconnected factors:

1. **Climate Change and Aridification** – Gradual environmental changes may have reduced agricultural productivity and weakened food security.
2. **River Course Shifts** – Changes in river systems likely disrupted irrigation, communication, and settlement sustainability.
3. **Agricultural Stress** – Ecological pressures may have diminished the productivity necessary to sustain large urban populations.
4. **Economic and Trade Disruptions** – The weakening of long-distance trade networks could have undermined economic stability.
5. **Gradual Urban Transformation** – Rather than experiencing sudden collapse, Harappa appears to have undergone a slow transition from

urban complexity toward smaller rural settlements.

Current scholarship generally supports the argument that Harappa's decline was gradual and multifaceted rather than catastrophic.

The Significance of Harappa in the Study of the Indus Civilization

Harappa occupies a central place in the study of the Indus Valley Civilization for several reasons.

First, it was among the earliest major sites excavated, contributing decisively to the recognition of a previously unknown Bronze Age civilization in South Asia.

Second, the site provided invaluable evidence concerning urban planning, architecture, social organization, economic systems, and long-distance trade.

Third, Harappa has helped scholars reconstruct patterns of cultural

interaction, technological advancement, and social development across ancient South Asia.

Finally, because the civilization itself came to be identified through this site, Harappa continues to hold immense symbolic and academic importance in archaeological research.

Conclusion

Harappa represents one of the most extraordinary achievements of early urban civilization in human history. Its sophisticated city planning, advanced drainage systems, standardized architecture, economic organization, and far-reaching trade networks demonstrate an exceptionally developed society for its time.

Although many aspects of Harappan life remain uncertain—particularly its undeciphered script—the continuing study of archaeological evidence has greatly enriched our understanding of ancient South Asian civilization.

Harappa stands not merely as an archaeological site but as a testament to human creativity, organization, and resilience in the ancient world. It occupies a prominent place in both the historical heritage of Pakistan and the broader narrative of world civilization.

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Hasan Ali

Introduction

The land of Sindh holds immense importance in terms of ancient civilizations and human settlement history. Numerous archaeological sites in the region are associated with different phases of the Indus Valley Civilization, providing valuable insights into human development, trade,

lifestyle, and social organization. Among these sites, Hasan Ali represents an important archaeological locality situated northeast of Karachi along the Super Highway. Archaeological evidence suggests that this settlement was connected with the urban phase of the Indus Civilization.

Geographical Location

The archaeological remains of Hasan Ali are located approximately 35.5 kilometers northeast of Karachi, along the Super Highway in Sindh, Pakistan. The site stands about 3 meters above the surrounding plain, a feature that may indicate a deliberate selection of elevated ground by ancient inhabitants to avoid flooding and establish sustainable habitation.

Archaeological Features

Preliminary archaeological surveys at the site have revealed traces of wall foundations, indicating the presence of an organized human settlement. Such architectural remains provide evidence that the inhabitants practiced permanent settlement and possibly

constructed buildings according to a planned spatial arrangement.

The presence of wall foundations further suggests the existence of residential or communal architectural structures. In this regard, Hasan Ali may be comparatively studied alongside major urban centers of the Indus Civilization, such as Mohenjo-daro and Harappa, both of which demonstrate advanced urban planning and settlement organization.

Historical Significance

According to archaeologist Flam, the Hasan Ali settlement is associated with the Harappan period, specifically the urban phase of the Indus Civilization. This urban phase, generally dated between approximately 2600 BCE and 1900 BCE, witnessed the flourishing of organized cities, standardized systems of measurement, trade networks, drainage systems, and sophisticated architectural planning.

The geographical proximity of Hasan Ali to Karachi also enhances its archaeological significance. Due to its

location near historical maritime and overland routes, the site may have functioned as a regional settlement or participated in local trade activities connected with wider Harappan exchange networks.

Conclusion

The archaeological remains of Hasan Ali represent an important settlement associated with the urban phase of the Indus Civilization. The evidence of wall foundations and the site's geographical setting indicate an organized and possibly permanent habitation. Although extensive excavation data remain limited, the available archaeological evidence grants Hasan Ali a significant position within the study of Sindh’s ancient past. Future systematic excavations and scientific investigations may provide a deeper understanding of the site’s social, economic, and cultural dimensions.

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Jadiren Jo Daro

Introduction

Jadiren Jo Daro is one of the important archaeological sites associated with the Indus Civilization. It is presently located within the boundaries of Balochistan near the Sindh–Balochistan border, close to Jhat Pat and Temple Dera railway stations. Geographically, the site lies approximately 1.5 kilometers west of the Jacobabad–Sibi road near the Dangara Nai. Archaeological evidence indicates that this settlement was an important component of the urban tradition of the Indus Valley Civilization.

Geographical Setting

Jadiren Jo Daro is situated near the Dangara Nai, which would have served as an important source of water for ancient inhabitants. Like many other Indus Civilization settlements, the site was established in an area that provided favorable conditions for agriculture,

trade, and human habitation. Its frontier location also suggests that it may have played a role in cultural and commercial interactions between Sindh and Balochistan.

Site Layout

The site consists of four separate mounds, indicating that it was a large and complex settlement. Such a layout is characteristic of several major Indus Civilization sites, where residential, industrial, and administrative sectors were often organized into distinct areas.

Archaeological Discoveries

The artifacts recovered from Jadiren Jo Daro reflect the advanced urban culture of the Indus Civilization. Important discoveries from the site include:

- Well-fired greenish pottery vessels
- Molds used for the production of pottery and other objects
- Triangular cakes
- Terracotta bangles
- Terracotta animal figurines
- Shells and marine shell objects
- Small toys

- Double-edged flint blades

These discoveries demonstrate that the inhabitants were engaged in craft production, trade, and various domestic activities. In particular, triangular cakes and flint blades have also been found at major Indus sites such as Mohenjo-daro and Harappa, indicating a shared material culture across the civilization.

Cultural and Historical Significance

Jadiren Jo Daro provides important evidence for the presence of urban settlements in the western frontier regions of the Indus Civilization. The archaeological remains suggest that it was not merely a residential settlement but also an important center of craft production, trade, and cultural activity. The discovery of shells and marine shell objects points to long-distance trade connections with coastal regions.

Conclusion

Jadiren Jo Daro is a significant archaeological site associated with the urban phase of the Indus Civilization. Its multi-mound layout and diverse

assemblage of artifacts make it an important source for understanding the social, economic, and technological development of the civilization. The pottery, triangular cakes, bangles, toys, figurines, and flint blades recovered from the site provide valuable insights into the daily life and cultural practices of its inhabitants. As a frontier settlement, the site also contributes to our understanding of regional interactions and the expansion of urban life within the Indus Civilization.

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Jeri Jo Kalat

Introduction

Jeri Jo Kalat is an ancient archaeological site located in Dadu District on the left bank of the Gaj Nai. The site occupies an elevated hilltop position, reflecting a strategic choice of settlement by its prehistoric inhabitants. Archaeological remains discovered at the site indicate its significance as an early settlement associated with the Amri cultural tradition of prehistoric Sindh.

Geographical Setting

The site is situated on a hill approximately 10 meters above the Gaj Nai channel. This elevated location would have provided protection from seasonal flooding while offering a commanding view of the surrounding landscape. Such topographical settings were often favored by ancient communities for both defensive and environmental advantages.

Archaeological Remains

Numerous structural remains have been identified at Jeri Jo Kalat, indicating the presence of permanent or semi-permanent habitation. The architectural evidence suggests that the site was occupied by a settled community that constructed buildings on the elevated terrain.

Pottery recovered from the site exhibits characteristics associated with the Amri Culture. These ceramics are important indicators of cultural affiliation and help establish the chronological placement of the settlement within the prehistoric sequence of Sindh. The pottery demonstrates similarities in form and manufacturing techniques to materials

discovered at the archaeological site of Amri, one of the principal pre-Harappan cultural centers in the region.

Cultural Significance

The presence of Amri-related pottery at Jeri Jo Kalat suggests that the settlement formed part of the broader network of communities that flourished in Sindh during the pre-urban phase preceding the rise of the Indus Civilization. The site contributes valuable evidence for understanding the distribution of Amri cultural traditions in the Kirthar foothill region and along the Gaj Nai valley.

Conclusion

Jeri Jo Kalat is an important prehistoric site in Dadu District that provides evidence of early settled life in the Gaj Nai region. Its elevated location, architectural remains, and Amri-related pottery indicate that it was an established settlement connected to the wider cultural developments of prehistoric Sindh. Further archaeological investigations could provide additional insights into its chronology, settlement

pattern, and relationship with other Amri cultural sites.

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Jhokar (Jhekar)

Introduction

Among the archaeological sites of Sindh, Jhokar (also spelled Jhekar or Jhukar) occupies an important place due to its significance in understanding both the urban phase of the Indus Valley Civilization and the cultural developments that followed its decline. Located near Larkana, this site is archaeologically important because of its multi-layered stratigraphy, which demonstrates continuity of human occupation across different historical periods. The archaeological evidence from Jhokar suggests that the area remained inhabited during the urban phase of the Indus Civilization, the subsequent transitional period, and the Indo-Sasanian era.

Geographical Location

The ancient site of Jhokar is located near Miro Dero, approximately 9 kilometers west of Larkana, Sindh, Pakistan. It can be observed on the northern side of the Larkana–Warah road. During prehistoric times, this settlement was situated on

the left bank of the Indus River, a geographical setting that contributed to its agricultural, commercial, and residential significance. Its proximity to the river likely provided access to water resources, fertile land, and communication routes.

Archaeological Features

The archaeological remains of Jhokar are divided into two principal mounds, designated as Mound “A” and Mound “B.”

Mound “A”

Mound “A” rises approximately 17 feet in height and consists of three stratigraphic layers associated with different historical periods.

- **Upper Layer:** Associated with the Indo-Sasanian period, reflecting later political and cultural influences in the region.
- **Lower Two Layers:** Associated with the urban phase of the Indus Civilization and considered contemporary with the period of Mohenjo-daro. This suggests that

Jhokar may have formed part of the broader urban network of the Indus Civilization.

According to archaeologist Rafique Mughal, the lower layers of Mound “A” also belong to the Indus Civilization, further emphasizing the antiquity and archaeological significance of the site.

Mound “B”

Mound “B,” standing approximately 63 feet high, is the more prominent and elevated section of the site. Archaeological analysis indicates that this mound belongs to the post-urban phase following the decline of the Indus Civilization. This evidence suggests that human occupation at Jhokar continued even after the collapse of Harappan urbanism, reflecting cultural continuity and social transformation in the region.

Historical and Cultural Significance

Jhokar represents an important transitional cultural center in the history of Sindh, where archaeological evidence of both the urban phase of the Indus Civilization and subsequent historical

developments coexist. Such multi-layered sites are especially valuable in archaeology because they help scholars understand patterns of social evolution, settlement continuity, and cultural change over time.

Comparative archaeological studies between Jhokar and major Indus sites such as Mohenjo-daro and Harappa may further illuminate the nature of urban organization and post-urban transformations in the Indus region.

Conclusion

The archaeological remains of Jhokar (Jhekar/Jhukar) occupy a significant place in the archaeology of Sindh because they demonstrate continuity of human settlement from the urban phase of the Indus Civilization to the Indo-Sasanian period. The stratigraphic evidence from Mounds “A” and “B” highlights the site's multi-cultural and multi-period importance. In particular, the layers contemporary with Mohenjo-daro make Jhokar an important site for understanding the development and transformation of the Indus Civilization. Future excavations and scientific

investigations may provide deeper insights into the settlement's cultural and historical role.

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Jahangara

Introduction

Sindh possesses numerous archaeological sites that play a significant role in understanding the social, economic, and cultural development of the Indus Valley Civilization through its different phases. Jahangara is one such archaeological site, located in Dadu District on the road connecting Johi and Sehwan, approximately two miles south of the

village of Jahangara. The site is particularly associated with the Late Harappan Phase of the Indus Civilization, a period crucial for understanding the process of cultural transformation in ancient Sindh.

Geographical Setting and Structure of the Site

The Jahangara site is situated in the historical region of Dadu District, where archaeological mounds rise to a height of approximately 17 feet. The elevation and geographical location of the mounds suggest that this settlement once served as an organized center of human habitation. Similar to other sites of the Indus Valley Civilization, Jahangara appears to have been a settlement closely linked with its surrounding environment and natural resources.

Archaeological Investigations and Material Findings

Archaeological surface investigations at Jahangara revealed limestone flakes, flint blades, and fragments of buff-colored pottery scattered across the mounds. The pottery recovered from the

site is predominantly plain and undecorated, lacking painted motifs, which suggests its association with the later or terminal cultural phase of the Harappan Civilization. During the Mature Harappan urban phase, painted pottery was widespread; however, in the Late Harappan period, pottery became increasingly simple, reflecting broader social and economic transformations.

Of particular significance is the observation that some pottery fragments discovered at Jahangara closely resemble specimens found near the stupa area of the archaeological site of Mohenjo-daro. This similarity suggests possible cultural connections or continuity between the two settlements. Additionally, a copper chisel and an awl were recovered, indicating the inhabitants' knowledge of metallurgy and craftsmanship.

Biological Evidence and Economic Life

A fragment of a human skull was also discovered at Jahangara, contributing valuable evidence for the biological study of ancient populations. Among

faunal remains, goat bones were found in considerable numbers, indicating that the inhabitants relied significantly on pastoral activities. Goats may have been raised for meat, milk, and other domestic needs, forming an important component of the subsistence economy during the Late Harappan period.

Historical and Cultural Significance

Based on archaeological evidence, Jahangara is attributed to the final phase of the Harappan urban tradition. This period represents an era of transformation following the decline of major urban centers of the Indus Civilization, during which large cities gradually gave way to smaller, localized settlements. Sites such as Jahangara demonstrate that the Indus Civilization did not abruptly disappear but instead continued in modified social and economic forms.

Conclusion

Jahangara is an important archaeological site in Sindh that provides valuable evidence for understanding the social and cultural

transformations of the Late Harappan period. The pottery, metal tools, human remains, and animal bones discovered at the site reflect aspects of ancient life and suggest that the inhabitants practiced pastoralism, craft production, and subsistence-based economic activities. Further excavation and scientific investigation at Jahangara may reveal new insights into the ancient history of Sindh and the continuity of the Indus Civilization.

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Jognakhera

Introduction

Jognakhera is an important archaeological site located in the Kurukshetra District of Haryana, India, associated primarily with the **Late Harappan phase** of the Indus Valley Civilization. The site is significant not only because of its association with the declining phase of the Harappan civilization but also due to the evidence of the later **Painted Grey Ware (PGW)** culture, which is generally connected with the Middle and Late Vedic periods. Consequently, Jognakhera may be understood as a transitional

archaeological site that helps scholars investigate the cultural, social, and economic transformations that occurred between the decline of the Harappan civilization and the emergence of Vedic society.

The archaeological evidence from Jognakhera further suggests that human occupation in the Saraswati Valley persisted after the decline of the Harappan urban centers. Moreover, the site provides important insights into the development of new socio-political structures that eventually contributed to the rise of early states such as the **Kuru–Panchala polity**.

Geographical Location and Connection with the Saraswati Valley

Jognakhera is situated in the Kurukshetra district of the Indian state of Haryana, a region historically associated with the ancient Saraswati River system. The Saraswati Valley has long been recognized as an archaeologically important cultural landscape where both Harappan and later Vedic sites have been identified.

Its geographical location likely made Jognakhera an important regional node connecting northwestern India with the **Ganga–Yamuna Doab**. This strategic positioning may have facilitated cultural interactions and economic exchanges between different populations during periods of significant historical transition.

Discovery and Archaeological Excavation

The archaeological significance of Jognakhera became more widely recognized following excavations conducted in **2009**, which yielded important material remains. Despite its historical importance, awareness of the site among local populations has remained relatively limited.

Excavations at the site recovered a range of archaeological materials, including:

- Pottery sherds
- Copper smelting furnaces

- Copper slag (industrial residue from metallurgical activities)
- Evidence of settlement occupation
- Defensive moat structures

These discoveries suggest that Jognakhera functioned not merely as a habitation site but also as an industrial and politically significant settlement.

Evidence of the Mature and Late Harappan Phases

Archaeological findings indicate that Jognakhera contains evidence associated with both the **Mature Harappan** and **Late Harappan** cultural phases. The Mature Harappan period (c. 2600–1900 BCE) represents the urban zenith of the Indus Civilization, whereas the Late Harappan period reflects a phase of regional transformation and adaptation after the decline of major urban centers.

Unlike large Harappan cities that experienced substantial decline, smaller settlements such as Jognakhera appear to have maintained continuity of

occupation. The Late Harappan phase at the site may be characterized by:

- Reduced urban planning and centralization
- Increased regional variation in pottery traditions
- Changes in trade and exchange networks
- Growth of localized industrial activities
- Stronger regional cultural identities

Jognakhera thus offers valuable evidence for understanding how Harappan traditions persisted while simultaneously adapting to changing social and environmental conditions.

Painted Grey Ware (PGW) Culture and the Vedic Period

One of the most significant archaeological features of Jognakhera is the presence of **Painted Grey Ware (PGW)** cultural material. PGW is generally dated to approximately **1200–**

600 BCE and is widely associated with the Middle and Late Vedic periods.

Typical characteristics of PGW pottery include:

- Fine grey-colored ceramic surfaces
- Black painted geometric designs
- High-quality clay preparation and firing techniques
- Usage in both ritualistic and domestic settings

The PGW culture is frequently associated with the **Kuru–Panchala chiefdoms**, regarded by many scholars as among the earliest large political formations in northern South Asia following the decline of the Indus Civilization.

Moat Structures and Political Organization

Among the most important discoveries at Jognakhera is the presence of a **V-shaped defensive moat**. Similar moat systems have also been identified at

sites such as Kunal and Hathira in the Saraswati region.

Archaeologists interpret these moats as indicators of:

1. Defensive planning and fortification;
2. Political centralization;
3. The emergence of **chiefdom-based social structures**.

The existence of such fortifications suggests that PGW communities were becoming increasingly organized and politically centralized, eventually laying the groundwork for the rise of the **Mahajanapadas** in northern India.

Copper Smelting and Metallurgical Activity

Another major aspect of Jognakhera's archaeological importance lies in the discovery of **copper smelting furnaces**. Excavations revealed furnace structures resembling large saucers, along with significant quantities of copper slag.

These discoveries indicate that:

- Jognakhera served as a center of metallurgical activity;
- Copper production may have supported regional trade networks;
- Economic life extended beyond agriculture to include specialized craft production;
- Skilled artisans and metallurgical specialists likely formed part of the settlement’s occupational structure.

The presence of copper-smelting technology demonstrates a relatively advanced degree of technological specialization within the community.

Vedic Society, the Mahabharata, and the Theory of B. B. Lal

The archaeologist B. B. Lal argued that the **Painted Grey Ware culture** may be associated with places mentioned in the Mahabharata and proposed a tentative date of approximately **900 BCE** for the war described in the epic.

However, this interpretation remains debated among historians and archaeologists. While many scholars associate PGW culture with the Vedic period, they remain cautious regarding the historical interpretation of the Mahabharata. Nevertheless, archaeological sites such as Jognakhera provide valuable material evidence for understanding the socio-cultural world of the Vedic age.

Cultural Transformation from the Harappan to the Vedic Period

Perhaps the greatest scholarly importance of Jognakhera lies in its role as a transitional site illustrating the shift from the Harappan world to the Vedic age.

The site demonstrates that:

- Harappan traditions did not disappear abruptly;
- Settlement continuity persisted after urban decline;
- New social and political institutions gradually emerged;

- Metallurgy and localized economies remained active;
- Evolving cultural practices contributed to the development of early state systems.

Thus, Jognakhera contributes significantly to understanding one of the most transformative periods in early South Asian history.

Conclusion

Jognakhera represents a highly significant archaeological site that illuminates the transition between the Late Harappan phase of the Indus Civilization and the Vedic period. The presence of Harappan and PGW material culture, defensive moat systems, copper-smelting furnaces, and evidence of habitation collectively suggest that the settlement played an important socio-economic and political role in the Saraswati region.

The archaeological evidence from Jognakhera further demonstrates that the decline of the Indus Civilization did not result in a complete cultural rupture.

Instead, earlier traditions persisted and evolved into new socio-political systems that later contributed to the rise of the Mahajanapadas and the emergence of early states in northern India.

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Kachho Buthi

Introduction

The archaeological sites scattered across the northwestern and central regions of Sindh are of great significance for understanding the ancient history, cultural evolution, and continuity of human settlement in the region. One such site is **Kachho Buthi**, located approximately 2.5 kilometers south of Pakhran near the Dafro Nai. Although the site has not yet been subjected to detailed survey, scientific excavation, or comprehensive research, the surface remains provide important clues regarding ancient human activities in the area.

Geographical Location

Kachho Buthi is situated south of Pakhran, close to the Dafro Nai. Areas surrounding seasonal streams and river channels have historically been favorable for human settlement due to the availability of water, fertile land, and communication routes. Like many ancient sites in Sindh, Kachho Buthi appears to have been associated with an ancient hydrological system or seasonal watercourse that may have supported human habitation.

Archaeological Remains and Material Culture

Evidence of ancient structural remains has been identified at the site, indicating the existence of a settled human community in the past. Pottery fragments are scattered around these structural traces, suggesting various domestic and economic activities carried out by the former inhabitants.

Pottery remains constitute one of the most important categories of material culture in archaeology. Their shape, fabric, color, and decorative features can provide valuable information regarding the chronology of a site, its

cultural affiliations, and its interactions with neighboring regions. However, without a detailed scientific study of the pottery recovered from Kachho Buthi, it is not possible to determine the site's precise cultural or chronological context.

Archaeological Significance

The significance of Kachho Buthi lies in the fact that it remains largely unexplored. A systematic archaeological excavation could potentially reveal architectural structures, household objects, tools, and other cultural materials that would contribute to a better understanding of the ancient history of the region.

Based on evidence from other archaeological sites in Sindh, settlements located near seasonal streams often belong to prehistoric or early historic periods. Nevertheless, any definitive conclusions regarding the chronology and cultural identity of Kachho Buthi must await detailed field surveys and scientific excavation.

Conclusion

Kachho Buthi is an important yet insufficiently studied archaeological site located near Pakhran. The visible architectural traces and scattered pottery fragments indicate the presence of an ancient human settlement. Due to the absence of systematic archaeological investigations, its cultural and historical significance remains unclear. Future surveys and excavations have the potential to provide valuable insights into the site's chronology, cultural affiliations, and role within the broader archaeological landscape of Sindh.

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Kai Buthi

Abstract

Kai Buthi is an important archaeological site located near Kai village in the southwestern part of the Kai Valley, Sehwan Taluka, Dadu District, Sindh, Pakistan. Associated with the Indus Valley Civilization (IVC), the site appears to represent a substantial rural settlement characterized by organized habitation, agricultural activity, water-resource management, and defensive architecture. Archaeological evidence, including ceramic remains and settlement features, suggests that Kai Buthi occupied an important position in the cultural landscape of ancient Sindh. Furthermore, the pottery assemblage indicates affinities with the Amri cultural phase, thereby underscoring the site's importance in understanding the transitional relationship between pre-Harappan and Harappan traditions.

Introduction

Kai Buthi constitutes one of the important archaeological settlements of Sindh associated with the Indus Valley Civilization. Situated near Kai village in Sehwan Taluka of Dadu District, the site has yielded evidence of an extensive settlement that sheds light on habitation patterns, subsistence strategies, and regional cultural development during the protohistoric and Harappan periods.

The archaeological significance of Kai Buthi lies not only in its association with the Indus Civilization but also in its apparent connection with the earlier Amri cultural horizon. As a result, the site offers valuable insights into the developmental stages of settlement organization and ceramic traditions in ancient Sindh. Although comparatively smaller in elevation, Kai Buthi covers an area comparable to nearby settlements such as Miri and Lakmir, thereby suggesting its regional importance within the settlement hierarchy of the area.

Geographical Setting and Environmental Context

Kai Buthi is located in the southwestern sector of the Kai Valley, an environmentally favorable region that appears to have supported sustained human occupation. One of the most significant natural features associated with the site is a substantial freshwater spring situated nearby. This spring likely served as the principal source of water for the settlement’s inhabitants, fulfilling both domestic and agricultural needs.

Archaeological and geographical observations indicate that the residents of Kai Buthi relied upon this water source not only for drinking purposes but also for irrigation and farming activities. The productivity of the spring appears to have been sufficient to sustain agricultural cultivation for a relatively large settlement. Such access to perennial water resources reflects a strategic pattern of settlement selection commonly observed throughout the Indus Civilization, where habitation centers were often established near dependable water supplies.

Settlement Pattern and Defensive Features

A notable feature of Kai Buthi is the presence of a flat-topped hill situated a short distance from the settlement, surrounded by steep slopes. Archaeological remains indicate that a fortification or defensive structure once existed atop this elevated terrain. According to H. T. Lambrick, the inhabitants of Kai may have sought refuge within this fortification during periods of danger or external threats.

The existence of a defensive refuge suggests a degree of socio-political organization and an awareness of security concerns among the settlement’s inhabitants. Although defensive structures are not universally prominent across all Indus settlements, the fortification at Kai Buthi highlights the adaptive strategies employed by local communities in response to environmental and social uncertainties.

Material Culture and Ceramic Traditions

Kai Buthi has yielded abundant ceramic remains associated with the Bronze Age cultural horizon. Surface scatters of pottery fragments constitute one of the

principal categories of archaeological evidence from the site and provide significant clues regarding chronology and cultural affiliation.

Archaeological interpretations, particularly those attributed to Fairservis and related scholarly observations, suggest that the ceramic tradition of Kai Buthi exhibits strong affinities with the Amri cultural phase. The Amri Culture, widely recognized as a pre-Harappan or protohistoric cultural complex in Sindh, represents an important developmental stage preceding the Mature Harappan urban tradition. Consequently, Kai Buthi may represent a transitional cultural context where elements of Amri traditions coexisted with or gradually evolved into Harappan cultural patterns.

Historical and Archaeological Significance

Kai Buthi occupies an important place in the archaeological history of Sindh due to its combination of environmental advantages, defensive infrastructure, and cultural material. The presence of

an abundant water supply, agricultural potential, ceramic traditions, and fortified features collectively suggests that the settlement was economically stable and socially organized.

The site is particularly significant for understanding regional variations in settlement organization during the Indus period and the cultural continuity between earlier Chalcolithic traditions and the urban Harappan phase. Future systematic excavations and scientific investigations may reveal additional evidence concerning chronology, social organization, craft specialization, and regional interaction networks.

Conclusion

Kai Buthi represents an important archaeological settlement in Sehwan Taluka associated with both the Indus Valley Civilization and the earlier Amri cultural phase. Its strategic geographical location, access to perennial water resources, evidence of defensive architecture, and abundant ceramic remains underscore its significance in

reconstructing the cultural history of ancient Sindh. The site provides valuable evidence for understanding regional settlement systems and the developmental transition between pre-Harappan and Harappan cultural traditions.

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Kandhi Wahi Buthi

Introduction

Kandhi Wahi Buthi is an important archaeological site located in the Nai Gaj Valley of Dadu District, Sindh. The site is associated with the prehistoric rural cultural tradition of the region and provides valuable evidence regarding early human settlement in the Kirthar foothills. Established on a naturally elevated mound, the settlement occupied a strategically advantageous location that offered protection from seasonal flooding and facilitated long-term habitation.

Geographical Context

The Nai Gaj Valley is one of the significant archaeological regions situated along the foothills of the Kirthar Mountains. Numerous prehistoric settlements have been identified in this area, reflecting a long history of human occupation. Kandhi Wahi Buthi is situated on a natural rise, a feature that would have protected its inhabitants from water runoff and seasonal inundation. Such elevated locations were particularly suitable for habitation

and agricultural activities in ancient times.

Archaeological Remains

The entire area of the site appears reddish due to the widespread presence of baked clay debris and pottery fragments. This characteristic is commonly observed at ancient settlements where prolonged habitation, construction activities, and domestic occupations have left substantial archaeological deposits.

The principal remains identified at the site include:

- Baked clay debris
- Large quantities of pottery sherds
- Remains of residential structures
- Settlement traces extending over approximately a quarter of a mile

The extensive spread of residential remains suggests that Kandhi Wahi Buthi was a significant rural settlement with a relatively substantial population. The abundance of pottery indicates local ceramic production and the use of earthenware vessels in everyday life.

Cultural Significance

Kandhi Wahi Buthi is an important site for understanding the rural cultural traditions of prehistoric Sindh, particularly those associated with the Amri-Nal cultural horizon. Such settlements provide valuable insights into the social and cultural developments that preceded the urban phase of the Indus Civilization. The archaeological evidence indicates that the inhabitants practiced settled village life, pottery production, architectural construction, and most likely an agricultural economy.

Conclusion

Kandhi Wahi Buthi represents a significant prehistoric settlement in the Nai Gaj Valley and contributes to our understanding of the development of rural cultures in ancient Sindh. The presence of baked clay debris, pottery fragments, and residential remains demonstrates that the site once served as a well-established and permanent habitation center. Future archaeological investigations and excavations may provide further information regarding its

chronology, economic activities, and role in the cultural evolution of the region.

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Karand Ji Bhit

Introduction

Karand Ji Bhit is an important archaeological site located in Deh No. 3 of Nawabshah District (present-day Shaheed Benazirabad), on the edge of the Jamrao Desert in Sindh, Pakistan. Archaeological evidence indicates that the site is associated with the urban phase of the Indus Valley Civilization. It represents one of the ancient settlements that formed part of the sophisticated urban network of the Harappan Civilization and provides evidence for the presence of Harappan culture in central Sindh.

Geographical Context

Karand Ji Bhit is situated along the margin of the Jamrao Desert, a region that was historically influenced by changing environmental conditions and river systems. Settlements established in such areas benefited from access to water resources, fertile agricultural land, and trade routes. Its location on the desert fringe highlights the strategic geographical importance of the site within the broader landscape of ancient Sindh.

Archaeological Significance

Although archaeological investigations at the site have been limited, its association with the urban phase of the Indus Civilization suggests that Karand Ji Bhit belonged to the Mature Harappan Period (c. 2600–1900 BCE). Settlements of this period are typically characterized by:

- Planned settlement layouts
- Standardized pottery traditions
- Craft and industrial activities
- An agricultural economy

- Regional and interregional trade connections

These characteristics reflect the high level of urban organization and social complexity that distinguished the Indus Civilization.

Cultural Importance

Karand Ji Bhit is an important site for understanding the spread of Harappan culture across central Sindh. It was likely one of the smaller or medium-sized settlements that maintained economic and cultural links with larger urban centers. Such settlements played a significant role in agricultural production, the supply of raw materials, and local trade, thereby contributing to the functioning of the wider Harappan economic system.

Conclusion

Karand Ji Bhit is a significant archaeological site in Nawabshah District that demonstrates the extensive geographical reach of the Indus Valley Civilization. Its location on the edge of the Jamrao Desert offers valuable

insights into ancient settlement patterns, economic activities, and cultural interactions in prehistoric Sindh. Future archaeological surveys and excavations may provide a deeper understanding of the site's chronology, settlement structure, and role within the Harappan world.

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Karhiyo Bir Bhandari

Introduction

Karhiyo Bir Bhandari is an archaeological site located in Badin District, Sindh, approximately 12 kilometers southwest of Badin. The site is associated with the urban phase of the Indus Valley Civilization and represents one of the many settlements that flourished in the lower Indus region during the Mature Harappan period. Its location in the coastal plain of southern Sindh highlights the geographical extent of Harappan cultural influence beyond the major urban centers.

Geographical Setting

Situated southwest of Badin, Karhiyo Bir Bhandari occupies an area that was historically connected to the ancient distributaries of the Indus River. The fertile floodplains and access to water resources would have supported agricultural production and facilitated communication between inland and coastal settlements. Such environmental conditions played a crucial role in the development and sustainability of Harappan communities throughout Sindh.

Archaeological Significance

Although detailed excavations at the site remain limited, the available archaeological evidence indicates that Karhiyo Bir Bhandari belonged to the Mature Harappan urban tradition (c. 2600–1900 BCE). Sites of this period are generally characterized by:

- Planned settlement layouts
- Standardized pottery traditions
- Advanced craft production
- Agricultural and trading activities
- Integration into regional exchange networks

The association of Karhiyo Bir Bhandari with the urban phase of the Indus Civilization suggests that it participated in the broader economic and cultural system that connected settlements across Sindh, Punjab, Balochistan, and Gujarat.

Cultural Context

The Mature Harappan period witnessed the emergence of highly organized urban centers, specialized crafts, and long-distance trade networks. Smaller settlements such as Karhiyo Bir Bhandari likely functioned as

agricultural and economic support centers linked to larger urban hubs. These communities contributed to the production, distribution, and exchange of goods within the Harappan world.

Conclusion

Karhiyo Bir Bhandari is an important archaeological site in Badin District that reflects the presence and expansion of the Indus Valley Civilization in southern Sindh. Its association with the Mature Harappan urban tradition demonstrates the widespread nature of Harappan settlement patterns across the lower Indus region. Further archaeological surveys and excavations may provide valuable information regarding the site's chronology, settlement structure, economic activities, and relationship with other Harappan centers.

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Kanjotar and Kaj

Kanjotar and Kaj were two closely connected settlements associated with the Indus Valley Civilization, specifically dating to its Mature Harappan phase (c. 2600–1900 BCE). Situated in the coastal region of present-day Gujarat, near the modern town of Kodinar in the Gir Somnath district, these sites are archaeologically significant for understanding maritime activity, regional trade networks, and settlement organization in the southern domain of the Harappan world.

Geographic and Archaeological Context

The coastal belt of Gujarat constituted one of the most economically dynamic regions of the Mature Harappan period. Archaeological evidence from settlements such as Lothal, Dholavira,

and smaller coastal sites demonstrates the importance of maritime exchange across the Arabian Sea. Within this regional framework, Kanjotar and Kaj appear to have functioned as minor but strategically placed settlements near the coastline, possibly participating in coastal commerce and resource distribution.

Kanjotar

Kanjotar, located near Muldwarka, consists of two earthen mounds representing archaeological occupation zones.

- One mound lies on the eastern side of the village adjacent to a modern temple.
- A second mound, approximately two kilometers distant, is presently used for agricultural cultivation by local inhabitants.

The dual-mound structure suggests a settlement with differentiated activity areas, potentially residential, storage, or craft-related sectors. Archaeologist Shereen Ratnagar proposed that Kanjotar may have functioned as a port

settlement. This hypothesis is based largely on its coastal location and its likely participation in maritime interaction networks linking Harappan communities of Gujarat with western regions.

If Kanjotar indeed served as a port, it may have facilitated trade involving shell products, marine resources, beads, semi-precious stones, and other goods commonly associated with Harappan coastal commerce.

Kaj

Kaj is composed primarily of a single earthen mound accompanied by several associated structures or habitation remains. Archaeological evidence indicates that the settlement did not cease occupation after the decline of the Harappan civilization. Instead, Kaj appears to have witnessed later habitation phases, including occupation connected with trade networks of the Roman Empire.

One particularly important discovery at Kaj is a stone anchor. Based on this evidence, archaeologist A. S. Gaur

proposed that Kaj may also have functioned as a port town. Stone anchors are significant indicators of maritime activity and have been discovered at several ancient coastal sites in western India, often associated with seafaring, docking facilities, or commercial exchange.

The Roman-period evidence further suggests continuity in the maritime significance of the locality, implying that the coastal routes utilized during the Harappan period may have remained active in later historical epochs.

Maritime Significance

Kanjotar and Kaj contribute to the broader understanding of Harappan maritime infrastructure. Unlike major urban centers, these smaller settlements may have acted as feeder ports, anchorage points, or local exchange hubs connected to larger commercial centers.

Their coastal positioning supports the theory that the Harappans maintained a complex maritime network extending along the western coast of India and

toward regions such as Mesopotamia and the Persian Gulf, where archaeological records attest to trade contacts with the Harappan civilization.

Conclusion

Although comparatively modest in size, Kanjotar and Kaj are important archaeological sites for reconstructing the coastal dimensions of the Mature Harappan civilization. Their strategic location near the Arabian Sea, evidence of possible port activity, and continuity of occupation underscore the long-term commercial importance of the Gir Somnath coastline. Future excavations and systematic archaeological investigations may further clarify their role within Harappan maritime trade and settlement systems.

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Karchat

Introduction

Sindh is home to numerous archaeological sites that are fundamental to understanding the social, economic, and cultural dimensions of the Indus Civilization. Karchat is one such ancient archaeological site located in Dadu District, between the Kirthar and Kailero mountain ranges near the village of Karchat. Due to its geographical location, material remains, and artistic expressions, the site occupies a unique position in the study of the Indus Civilization. In particular, the pottery, beads, and artistic motifs recovered from the site provide valuable information about the aesthetic sensibilities, craftsmanship, and economic activities of its inhabitants.

Geographical Setting and Natural Environment

The ancient site of Karchat is situated between the Kirthar and Kailero

mountains in an environment that appears to have been favorable for human settlement. The presence of three natural springs flowing near the site ensured a reliable water supply, which was essential for sustaining ancient communities. Abundant access to water was necessary not only for agriculture and animal husbandry but also for the long-term stability of settlement life.

The foundations of buildings at the site incorporated yellow sandstone, reflecting the construction techniques of the period and the utilization of locally available materials. This suggests that the inhabitants possessed considerable knowledge regarding architectural planning and material selection.

Archaeological Discoveries and Material Culture

The archaeological remains discovered at Karchat provide evidence of the refined artistic and cultural traditions of the Indus Civilization. Pottery decorated with red designs painted over a black background has been found at the site and is considered particularly significant

due to its aesthetic quality and craftsmanship. In addition, fragments of terracotta cakes and flint tools have been recovered, offering insights into daily life and industrial activities.

Various types of beads have also been discovered at Karchat, including those made of lapis lazuli, steatite, and terracotta. The presence of lapis lazuli, a valuable semi-precious stone, indicates that the inhabitants of Karchat may have been connected to long-distance trade networks, as lapis lazuli was generally obtained from regions of northern Afghanistan and Central Asia. Thus, the site was likely integrated into broader commercial systems.

Artistic Motifs and Symbolic Expression

The painted decoration and coloration on pottery discovered at Karchat demonstrate remarkable artistic sophistication. Decorative motifs include palm trees, mountain goats, eye-like designs, and bird heads. These artistic representations not only reveal advanced craftsmanship but may also

have held symbolic, religious, or cultural meanings.

The motifs of mountain goats and palm trees likely reflect the surrounding natural environment, whereas eye-like patterns may have functioned as protective or religious symbols. Similar symbolic expressions have been observed at other sites of the Indus Civilization in varying forms.

Cultural Classification and Scholarly Interpretations

According to archaeologist N. G. Majumdar, Karchat belonged to the urban phase of the Indus Civilization. In his interpretation, the material remains recovered from the site indicate an organized society characterized by craftsmanship, trade, and urban cultural elements.

In contrast, archaeologist Louis Flam argued that Karchat represented a mixed settlement combining both rural and urban characteristics. This interpretation suggests that Karchat may have functioned as a transitional or

intermediary center linking urban hubs with surrounding rural communities.

Conclusion

Karchat is an important archaeological site in Sindh that provides significant evidence for understanding the social, artistic, and economic dimensions of the Indus Civilization. The beautifully decorated pottery, valuable beads, flint tools, and architectural remains discovered at the site demonstrate not only the artistic sophistication of its inhabitants but also the site's commercial and cultural significance. Despite differing scholarly interpretations, it is evident that Karchat was an important settlement where urban and rural cultural traditions intersected. Further excavation and scientific investigation may reveal additional insights into the history and role of this important settlement.

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Kalibangan

Introduction

The Indus Valley Civilization (IVC) is regarded as one of the oldest urban civilizations in human history, distinguished by its advanced urban planning, trade, agriculture, craftsmanship, social organization, and cultural sophistication. The civilization flourished across present-day Pakistan and India, and among its major archaeological sites, **Kalibangan** occupies a particularly significant position. Kalibangan is notable for its continuous occupation during both the Pre-Harappan and Mature Harappan phases, its organized urban planning, fire altars, and evidence of what is considered the world’s earliest known ploughed agricultural field.

Kalibangan is not only fundamental for understanding the evolution of the Indus Civilization but also provides valuable insights into ancient social, economic, religious, and agricultural systems. Archaeological discoveries from the site indicate the presence of a highly developed urban society with organized agriculture, trade networks, industries, and ritualistic practices.

Geographical Location

Kalibangan is located in the **Hanumangarh District** of the Indian state of **Rajasthan**. The site lies on the left or southern bank of the **Ghaggar-Hakra River**, which many scholars associate with the ancient **Sarasvati River system**. Historically, the area is believed to have been situated near the confluence of the **Drishadvati and Sarasvati Rivers**.

Geographically, Kalibangan occupied a strategic location favorable for agricultural productivity, water accessibility, and trade activities. The site also demonstrates that the geographical extent of the Indus Civilization was not limited to Sindh and Punjab but extended into Rajasthan and Gujarat.

Discovery and Archaeological Excavations

The discovery of Kalibangan is credited to the Italian Indologist **Luigi Tessitori**, who recognized the antiquity and unusual character of the ruins during his research on ancient Indian texts.

Although he identified the remains as prehistoric, the Indus Civilization had not yet been formally recognized during his lifetime.

Following the partition of British India in 1947, when major Indus sites such as **Harappa** and **Mohenjo-daro** became part of Pakistan, Indian archaeologists intensified efforts to identify Harappan sites within India. Under the auspices of the **Archaeological Survey of India (ASI)**, excavations were carried out between **1960 and 1969** under the leadership of **B. B. Lal** and other archaeologists.

Excavations revealed two major settlement mounds:

1. **The Citadel (Upper Town)**
2. **The Lower Town**

These findings demonstrated that Kalibangan was constructed according to a pre-planned urban design.

The Pre-Harappan Phase

One of Kalibangan’s most important features is the presence of both **Pre-Harappan** and **Mature Harappan** cultural layers. The earlier phase, known as **Kalibangan-I (KLB-I)**, dates approximately from **3500 BCE to 2500 BCE**.

During this period:

- The settlement was fortified with **mud-brick walls**.
- Houses were systematically constructed.
- Distinctive pottery traditions flourished.
- Agricultural practices were well established.

The pottery of this period is closely associated with the **Sothi-Siswal Culture**, often regarded as an early developmental stage of the Harappan Civilization.

The World’s Earliest Ploughed Field

Among Kalibangan’s most remarkable discoveries is an ancient **ploughed**

agricultural field, widely considered one of the earliest scientifically documented agricultural fields in the world.

Excavations uncovered a field showing:

- Furrows running east–west at close intervals, and
- Furrows running north–south at wider intervals.

Archaeologists suggest that this pattern was designed for **double-cropping agriculture**, likely involving crops such as **mustard and gram (chickpeas)**.

This discovery demonstrates the advanced agricultural knowledge of the Indus people and their sophisticated understanding of land management and crop production.

The Mature Harappan Phase and Urban Planning

Between approximately **2500 BCE and 1750 BCE**, Kalibangan entered the **Mature Harappan Phase**, during

which its urban structure became highly organized.

Key features of the city included:

- Straight streets
- A grid-based town plan
- Standardized brick measurements
- Efficient drainage systems
- Private wells in many households

The roads were built according to precise proportional measurements, indicating the presence of organized civic administration and sophisticated urban governance.

Religious Practices and Fire Altars

One of Kalibangan’s unique archaeological features is the presence of **fire altars**, discovered in both the citadel and residential areas.

These findings suggest:

- Organized ritualistic practices,

- Possible fire worship traditions,
- Potential evidence of animal sacrifice in certain contexts.

This aspect distinguishes Kalibangan from many other Indus Valley sites and provides important evidence regarding Harappan religious traditions.

Pottery, Seals, and Terracotta Objects

A substantial variety of material culture has been discovered at Kalibangan, including:

- Painted pottery
- Terracotta toys
- Wheels and toy carts
- Seals
- Copper tools
- Beads
- Shell and semi-precious stone ornaments

Particularly noteworthy is a **terracotta bull figurine**, often regarded as an outstanding example of Harappan folk art and artistic realism.

Burial Practices

Archaeological evidence indicates **three distinct burial systems** at Kalibangan:

1. Full-body burials
2. Urn burials using pottery vessels
3. Symbolic graves without skeletal remains

This diversity may indicate varying social or ritualistic customs within the community.

Earthquakes and the Decline of Kalibangan

Archaeological evidence suggests that around **2600 BCE**, a significant earthquake affected the settlement and disrupted its earlier phase.

Although the city was later reoccupied, its eventual decline appears to have resulted from:

- River desiccation,
- Environmental changes,
- Agricultural disruption.

Many scholars argue that the drying up of the **Ghaggar/Sarasvati River system** played a major role in the abandonment of the settlement.

Historical and Cultural Significance

Kalibangan occupies a distinguished position in world archaeology for several reasons:

1. Evidence of continuity between Pre-Harappan and Harappan phases
2. Discovery of the world’s earliest known ploughed field
3. Presence of ritual fire altars
4. Advanced urban planning
5. Crucial role in understanding the expansion and evolution of the Indus Civilization

Critical Analysis

The study of Kalibangan demonstrates that the Indus Civilization was not limited to urban planning alone; it was equally advanced in agriculture, religion, trade, and social organization. However, several important questions remain unresolved, such as:

- What was the precise religious purpose of the fire altars?
- What was the historical significance of the Sarasvati River system?
- Was environmental change the principal cause of decline, or were social factors also involved?

These issues continue to invite further scholarly investigation.

Conclusion

Kalibangan is one of the most important and distinctive archaeological sites of the Indus Valley Civilization, offering invaluable information about early urbanization, agricultural innovation, ritual traditions, and social organization.

The discoveries made at this site demonstrate that the people of the Indus Civilization possessed advanced knowledge in engineering, agriculture, craftsmanship, and civic planning. Consequently, the study of Kalibangan remains essential not only for understanding the Indus Civilization but also for reconstructing the broader history of early human civilization.

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Karanpura

Introduction

The Indus Valley Civilization is among the earliest urban civilizations in human history and extended across a vast geographical region of South Asia. It was not confined only to Sindh and Punjab but also spread into present-day India and Afghanistan. While major urban centers such as Mohenjo-daro, Harappa, Dholavira, and Kalibangan are widely known, numerous smaller yet significant settlements also existed. These played a crucial role in trade, agricultural production, raw material distribution, and regional connectivity. One such important site is **Karanpura**, located in Hanumangarh district of Rajasthan, India.

Although smaller than major Harappan cities, archaeological evidence suggests that Karanpura functioned as an important settlement within the Indus Valley network. Excavations have revealed Harappan pottery, terracotta bangles, agate beads, copper objects, steatite seals, and even rhinoceros remains, all indicating economic,

cultural, and environmental significance. The site also provides evidence of long-distance trade networks extending as far as Afghanistan.

Geographical Setting

Karanpura is located near Bhadra town in Hanumangarh district, Rajasthan. Administratively, it falls under Bhadra tehsil. It lies approximately 8 km west of Bhadra city and about 125 km southeast of Hanumangarh district headquarters.

The site is situated near the Nohar–Bhadra road, which likely served as a historic route for regional movement and trade. Today, the region is semi-arid, but in antiquity, the presence of water channels and seasonal rivers likely made it more suitable for agriculture and settlement.

The major Harappan site of **Kalibangan** lies about 120 km west of Karanpura, suggesting possible cultural and economic interactions between the two settlements.

Historical Background

The Indus Valley Civilization is generally divided into three phases:

1. Early Harappan Period (3300–2600 BCE)
2. Mature Harappan Period (2600–1900 BCE)
3. Late Harappan Period (1900–1300 BCE)

Evidence from Karanpura shows continuous occupation from the Early Harappan to Mature Harappan phases. Cultural deposits up to three meters deep indicate long-term settlement, possibly beginning around 2800 BCE.

Pre-Harappan pottery has also been discovered, suggesting earlier occupation and gradual cultural development in the region.

River System and Environmental Background

Karanpura was likely influenced by ancient river systems such as the Ghaggar–Hakra or possibly the Drishadvati/Chautang system. Like many Harappan settlements, proximity

to water resources would have supported agriculture and habitation.

The discovery of rhinoceros bones indicates that the environment was once much more humid and ecologically rich than it is today. This reflects significant climatic changes over time.

Discovery and Excavation

The site was systematically excavated by the Archaeological Survey of India (ASI) under the supervision of archaeologist V. N. Prabhakar.

Key findings include:

- Harappan pottery
- Mud-brick houses
- Terracotta bangles
- Agate beads
- Grinding stones
- Terracotta figurine
- Copper mirror
- Steatite seals
- Graffiti marks

These findings confirm that Karanpura was a structured settlement with

continuous occupation from Early to Mature Harappan phases.

Material Culture

The material remains from Karanpura reveal a well-developed craft tradition. The site produced pottery, terracotta objects, beads, seals, and metal artifacts, indicating specialized production activities.

Pottery

Harappan pottery found at Karanpura includes red ware decorated with black geometric designs. These vessels were used for storage, cooking, and possibly ritual purposes. Evidence also suggests the presence of pre-Harappan ceramic traditions.

Terracotta Objects

Terracotta bangles and figurines reflect aesthetic traditions and possibly social identity markers. Similar objects found at other Harappan sites suggest cultural uniformity across the civilization.

Beads and Semi-Precious Stones

Agate beads were widely used for ornaments. The presence of lapis lazuli strongly indicates long-distance trade with Afghanistan, particularly the Badakhshan region.

Seals and Graffiti

Steatite seals indicate administrative and commercial usage. They likely functioned in trade identification and economic regulation. Graffiti marks may represent symbolic communication or early writing systems.

Copper Mirror

The discovery of a copper mirror is rare and suggests both technological skill and social sophistication.

Settlement Structure

Mud-brick houses indicate permanent habitation and planned settlement patterns consistent with Harappan urban traditions.

Trade Networks

Karanpura was part of a broader Indus trade network connecting:

- Afghanistan
- Baluchistan
- Sindh
- Punjab
- Gujarat

This demonstrates its role as a minor but significant trade hub.

Animal Remains

Four rhinoceros bones discovered at the site suggest a once humid and ecologically diverse environment.

Child Skeleton

A child skeleton discovered in 2013 provides valuable bioarchaeological data for studying health, diet, and mortality patterns.

Social and Cultural Life

Karanpura reflects a structured society with craft specialization, trade activity, and cultural expression. Ornamentation and figurines suggest aesthetic and symbolic traditions.

Economy

The economy was based on:

- Agriculture
- Animal husbandry
- Craft production
- Long-distance trade

Comparison with Other Sites

Kalibangan

Karanpura was smaller but culturally connected.

Rakhigarhi

Rakhigarhi was a large urban center, whereas Karanpura functioned as a secondary settlement.

Mohenjo-daro

Mohenjo-daro was a major administrative city; Karanpura was a trade-oriented settlement.

Religion and Belief System

Although no major religious structures are found, terracotta figurines suggest fertility-related beliefs and symbolic traditions.

Causes of Decline

Possible reasons include:

- River shifts and drying water systems
- Climatic changes
- Breakdown of trade networks
- Population migration

Scholarly Importance

Karanpura is significant because it provides evidence of:

- Continuous Harappan occupation
- Long-distance trade
- Afghanistan trade connections
- Rare copper artifacts
- Environmental reconstruction through fauna remains

Conclusion

Karanpura represents an important yet lesser-known settlement of the Indus Valley Civilization. It demonstrates that the civilization was not only composed of large cities but also a network of small trade and craft settlements

integrated into a broader economic and cultural system.

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Khajoor

Introduction

The western mountainous regions of Sindh, particularly the areas adjoining the Kirthar range, contain numerous archaeological sites that provide valuable information about the cultural development of prehistoric societies in Sindh. Khajoor, located near Karchat in Dadu District, is one such ancient site of archaeological significance. The pottery remains, structural evidence, and small crafted objects discovered at the site indicate its importance in understanding the rural cultural traditions of prehistoric Sindh.

Geographical Location

The archaeological remains of Khajoor are situated in Dadu District, approximately 9 kilometers southeast of Karchat. Owing to its proximity to the Kirthar mountain region, the area likely benefited from natural resources and seasonal watercourses, which would have supported early human settlement and subsistence activities.

Structural Remains

Archaeologists have discovered traces of walls at Khajoor, providing evidence of human habitation and architectural activity at the site. The foundations of these walls were constructed using black stone and gravel, suggesting that local materials were utilized in the construction of residential or communal structures. Such architectural methods are commonly associated with ancient settlements in the hilly and semi-mountainous regions of Sindh.

Pottery and Decorative Traditions

Among the pottery assemblage recovered from Khajoor, fragments of straight-necked vessels are especially abundant, indicating their widespread use in daily domestic activities. The pottery exhibits bichrome decoration, which represents one of the notable cultural characteristics of the settlement.

The vessels are painted in reddish-brown, pale, and black colors, reflecting both artistic expression and the technological development of ceramic production. Similar decorative traditions have also been observed at other

prehistoric rural settlements in Sindh, suggesting possible regional cultural connections.

Small Artifacts and Cultural Significance

The archaeologist Nani Gopal Majumdar discovered a terracotta bead with two corners and engraved markings at Khajoor. Such objects may have been used for ornamentation, exchange, or symbolic and ritual purposes within the community.

The archaeological remains indicate that Khajoor was associated with a rural cultural tradition, where inhabitants likely depended on agriculture, pastoralism, and local craft production for their livelihood. Therefore, the site represents an important source for understanding the social and cultural diversity of prehistoric Sindh.

Conclusion

The archaeological remains of Khajoor provide significant insight into the rural cultural traditions of prehistoric Sindh. The structural remains, bichrome

pottery, and engraved terracotta bead collectively suggest that Khajoor was an organized human settlement with distinctive cultural features. Further archaeological excavation and scientific investigation may reveal additional information regarding the chronology and broader historical significance of the site.

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Khandar Bhit

Introduction

Khandar Bhit is an archaeological site located on a mound between Khehi Khumbhji and Bazar Lund in Mirpur Mathelo Taluka of Mirpur Mathelo, within Sukkur District. The site lies near a minor channel of the ancient Hakra River, suggesting that its inhabitants benefited from a reliable water source. Archaeological evidence indicates that Khandar Bhit belonged to the urban phase of the Indus Civilization and formed part of the broader settlement network that flourished across Sindh

and adjoining regions during the third millennium BCE.

Geographical Context

The location of Khandar Bhit near an abandoned course of the Hakra River is of considerable archaeological significance. Numerous prehistoric settlements in eastern Sindh and the Cholistan region were established along the banks of the Hakra-Ghaggar river system. Access to water facilitated agriculture, trade, and communication, contributing to the growth of urban communities during the Indus Civilization.

Archaeological Remains

Surface investigations at Khandar Bhit have yielded several important artifacts, including:

- Flint blades and flakes
- Fragments of copper objects
- Stone beads

The presence of flint implements reflects a developed lithic technology, while copper fragments indicate the use

of metallurgy. Stone beads suggest personal adornment and possibly participation in long-distance trade networks, as bead production and exchange were important features of Indus urban society.

Cultural Significance

The material remains recovered from Khandar Bhit demonstrate clear associations with the Mature Harappan or urban phase of the Indus Civilization (c. 2600–1900 BCE). During this period, settlements were characterized by specialized crafts, standardized technologies, and extensive commercial interactions. The site's location along an ancient river channel further supports its integration into the economic and cultural landscape of the Indus world.

Conclusion

Khandar Bhit represents an important archaeological locality in northern Sindh that contributes to our understanding of settlement patterns associated with the Indus Civilization. The discovery of flint tools, copper fragments, and stone beads highlights the technological and

economic activities practiced by its inhabitants. Future archaeological investigations may reveal additional information regarding the site's extent, chronology, and role within the broader network of Harappan settlements.

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Khirasara

Introduction

Khirasara is an important archaeological site of the Indus Valley Civilization, located in the Nakhatrana Taluka of Kutch District in the western Indian state of Gujarat, on the bank of the Khari River. The site lies approximately 85 kilometers from Bhuj, the district headquarters. Archaeological research indicates that Khirasara was a significant industrial and economic centre during the Mature Harappan Period, flourishing approximately between 2600 BCE and 2200 BCE. The evidence recovered from the site suggests that Khirasara was not merely a residential settlement but also a highly organized urban and industrial centre characterized by production, trade, urban planning, and technological sophistication.

The significance of Khirasara increases further because it represents one of the frontier regions of the Indus Civilization where Harappan culture adapted to local environmental conditions while developing a distinctive industrial system. Excavated seals, standardized weights, perforated pottery, residential

structures, and a large warehouse-like building collectively demonstrate a high degree of social organization at the site.

Geographical Location and Environmental Background

Khirasara was established on the bank of the Khari River, which in ancient times would have played a crucial role in water supply, agriculture, transportation, and trade. Although the Kutch region today is largely semi-arid and desert-like, environmental conditions during the third millennium BCE were likely different, with seasonal watercourses and more favorable conditions for human settlement.

Settlements of the Indus Civilization were generally established near water resources, fertile lands, and trade routes. Khirasara appears to have followed this pattern, as it occupied a strategic position between inland and coastal trade zones. Consequently, the site may have played a role in both terrestrial and maritime trade networks.

Discovery and Archaeological Excavations

Khirasara was scientifically identified during archaeological explorations conducted in 1976–1977, when officials of the Archaeological Survey of India discovered a large cubical weight, pottery fragments, and vessels of red polished ware. These findings initially established the presence of an advanced ancient settlement at the site.

In December 2009, the Vadodara division of the Archaeological Survey of India initiated systematic excavations after the discovery of a fortification wall enclosing an area of approximately 300 square metres. This discovery confirmed that Khirasara was a planned and fortified settlement.

The various cultural layers uncovered during excavation are also highly significant because they help scholars understand the developmental phases of the settlement. Artefacts found in the upper layers likely belong to later periods, while deeper layers represent earlier occupational phases.

Urban Planning and Fortification System

One of the major characteristics of Khirasara is its organized urban layout. The presence of fortification walls surrounding the site suggests considerable attention to security and defensive measures. Similar to other cities of the Indus Civilization, Khirasara demonstrates clear evidence of urban planning and architectural organization.

Residential houses were constructed using bricks and mud, materials suitable for local climatic conditions. The houses contained rectangular interconnected rooms, along with furnaces for cooking. Such architectural features reflect social organization, domestic activities, and the permanence of settlement.

Outside the houses, pathways made of mud, pottery fragments, shells, and small stones were discovered, indicating systems of movement, accessibility, and urban maintenance.

Importance of Khirasara as an Industrial Centre

Current archaeological evidence identifies Khirasara as a major industrial centre of the Mature Harappan Period.

The site’s economic foundations can be inferred from the presence of large storage facilities, standardized weights, seals, and various crafted objects.

One of the most important discoveries is a large “warehouse” consisting of fourteen parallel walls. This structure measured approximately 28 metres in length and 12 metres in width. The walls had an average length of around 10.8 metres and a breadth of approximately 1.55 metres. Archaeologists believe that the upper structure was built using wood and daub.

This building may have served as a storage facility for grain, industrial raw materials, or trade goods. If this interpretation is correct, Khirasara likely functioned as an organized economic centre where production and distribution systems operated efficiently.

Pottery, Seals, and Material Culture

Excavations at Khirasara yielded fine specimens of perforated pottery. Similar pottery has been discovered at various Indus Civilization sites, although its exact purpose remains debated. Some

scholars suggest that such vessels may have been used for grain processing, filtration, or specialized industrial activities.

In addition, seals were discovered at the site and are currently preserved in the Kutch Museum. In the Indus Civilization, seals were commonly used for trade, ownership identification, and administrative purposes. Their presence at Khirasara strongly suggests organized economic activity.

A large cubical weight was also discovered, indicating the use of standardized systems of weights and measures. Such systems are widely regarded as evidence of economic sophistication within the Indus Civilization.

Mortuary Practices and Social Aspects

Excavations uncovered bone pots used to preserve ashes and skeletal remains, suggesting funerary or mortuary practices among the inhabitants of Khirasara. These findings imply that the community maintained distinct cultural

or religious beliefs regarding death and the afterlife.

Shell fragments were also recovered, possibly used for ornaments or ritual activities. Since Kutch lies relatively close to the coast, maritime trade and cultural interactions may have significantly influenced daily life at Khirasara.

Discovery of a Survey Instrument: Evidence of Scientific Knowledge

An artefact resembling a modern prismatic compass was recovered from Khirasara. This discovery is particularly important because it may indicate advanced technical, mathematical, and surveying knowledge among the Harappans.

If this instrument was indeed used for land measurement or directional planning, it strengthens arguments regarding the sophisticated urban planning and engineering capabilities of the inhabitants.

Comparative Analysis with Other Harappan Sites

A comparison of Khirasara with other Harappan sites such as Dholavira, Lothal, and Desalpar demonstrates the strategic importance of the Kutch region within the broader economic and trade network of the Indus Civilization. While Dholavira is renowned for its sophisticated urban planning and Lothal for maritime trade, Khirasara appears to have played a particularly significant role as an industrial and storage centre.

Conclusion

Khirasara is an important archaeological site of the Indus Valley Civilization that provides valuable insights into urban planning, industrial production, trade, and social organization. Discoveries including fortification walls, residential houses, a large warehouse, seals, standardized weights, and perforated pottery collectively demonstrate that Khirasara was a highly organized and advanced urban settlement. The site not only contributes to understanding the economic system of the Indus Civilization but also illustrates how Harappan communities adapted successfully to diverse geographical environments.

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Kerala-no-dhoro

Introduction

Kerala-no-dhoro, also known as **Padri**, is an important archaeological site associated with the **Indus Valley Civilization (IVC)**, located on the southern coast of the **Kathiawar region in Gujarat, India**. This site belongs to both the **Early Harappan** and **Mature Harappan** phases and holds special significance due to its distinctive cultural features, maritime economy, salt production, fishing activities, and indigenous pottery traditions. Archaeological evidence suggests that the site dates approximately between **3792–3699 BCE** and is identified with the **Padri Culture** or the **Sorath Harappan Tradition**.

The study of Kerala-no-dhoro demonstrates that the Indus Civilization

was not limited to large urban centers such as Mohenjo-daro and Harappa but also included smaller coastal and trade-oriented settlements that were economically active, culturally diverse, and socially organized. Padri appears to have been one such coastal settlement, providing valuable evidence regarding maritime trade, salt production, fishing, and local industries.

Geographical Location and Environmental Context

Kerala-no-dhoro is situated along the southern coastal belt of the Kathiawar Peninsula in Gujarat. Due to its coastal location, the economic life of the settlement was closely connected to marine resources. Its proximity to the sea likely facilitated activities such as **salt production**, **maritime exchange**, and **fishing**.

From an environmental perspective, the Kathiawar region is characterized by a **semi-arid climate**, where agricultural opportunities were relatively limited. Consequently, the inhabitants may have relied substantially on marine resources for sustenance and economic stability.

Archaeologists have proposed that salt was produced here through the evaporation of seawater, representing an important example of ancient economic planning and resource management.

Discovery and Archaeological Importance

Archaeological excavations at Padri uncovered materials that underscore the significance of the site. Structural remains from both the **Early Harappan** and **Mature Harappan** periods indicate prolonged habitation and cultural continuity.

The site is particularly important because archaeologists discovered a distinctive type of pottery that differs from the **Amri-Nal cultural tradition**. Scholars suggest that the ceramics found at Padri and **Loteshwar** represent an indigenous tradition, reflecting regional cultural diversity within the broader framework of the Indus Civilization.

Padri Culture and the Sorath Harappan Tradition

Padri is commonly associated with the **Padri Culture** or **Sorath Harappan Tradition**, a regional expression of Harappan civilization in Gujarat. This cultural tradition illustrates a synthesis between local traditions and broader Harappan influences.

The pottery discovered at Padri is unique in terms of shape, design, and decorative techniques. These ceramics differ in certain aspects from conventional Harappan pottery, indicating that local communities maintained a distinct artistic identity while simultaneously participating in the wider Harappan cultural sphere.

Residential Structures and Settlement Planning

Early Harappan Period

During the **Early Harappan period**, the settlement featured **rectangular houses**, **multi-room residential units**, and **workshops**. These structural remains demonstrate that the inhabitants possessed not only survival strategies but also technological skills, craftsmanship, and social organization.

The existence of workshops suggests specialized economic activities, including pottery production, metalworking, or the manufacture of tools related to marine resources.

Mature Harappan Period

In the **Mature Harappan phase**, houses were constructed using **mud bricks**, and floors were plastered with a mixture of **lime and dung**, likely for cleanliness and temperature regulation. Residential buildings also included **storage spaces** and **hearths for cooking**, reflecting an organized domestic life and an emphasis on food storage and household management.

Pottery and Cultural Expression

The pottery recovered from Padri represents one of the most important cultural indicators of the site. Ceramic assemblages from Padri closely resemble those found at **Somnath (Prabhas Patan)** and **Loteshwar**, pointing toward a distinctive regional artistic tradition.

One particularly remarkable discovery is a **large storage jar decorated with buffalo-horn motifs** and a large anthropomorphic figure wearing a ragged skirt and buffalo horns. Scholars have interpreted this imagery in several ways:

1. **Religious Symbolism** – It may represent a deity or sacred figure.
2. **Shamanic Tradition** – Some scholars interpret it as a ritual specialist or shamanic figure.
3. **Human-Animal Symbolism** – Since animals held symbolic importance in Harappan culture, buffalo horns may symbolize power, fertility, or ritual significance.

Evidence of Script and Symbolic Communication

Symbols resembling the **Harappan script** were found in the Early Harappan layers of Padri. Similar markings have also been discovered at **Kalibangan** and **Dholavira**.

This evidence is highly significant because it suggests the early development of symbolic communication or proto-writing systems. Although the Harappan script remains undeciphered, such symbols may have been associated with trade, administration, religious symbolism, or social communication.

Fishing and Maritime Economy

Large **copper fish hooks** discovered at Padri provide important evidence regarding the settlement's maritime economy. The extraordinary size of these hooks suggests that inhabitants caught **large marine fish**.

This finding indicates:

- Extensive utilization of marine resources
- Possible commercial fishing and maritime trade networks
- A stable coastal subsistence system

Fishing likely served not only as a dietary resource but also as an economic activity connected to regional trade.

Salt Production and Economic Importance

Padri is described as an **unwalled settlement**, which scholars believe may have been heavily involved in **salt production**. It has been proposed that seawater was evaporated to produce salt.

In antiquity, salt was a highly valuable commodity used for **food preservation**, **ritual activities**, and **trade**. If Padri functioned as a center of salt production, it may have occupied an important position within the coastal economic system of the Indus Civilization.

Comparative Analysis with Other Harappan Sites

Padri is often compared with sites such as **Dholavira**, **Lothal**, **Kalibangan**, and **Somnath**. While Dholavira is renowned for its urban planning and water

management systems, Padri is distinctive because of its maritime economy and salt industry.

Similarly, whereas Lothal is noted for evidence of a dockyard and maritime trade, Padri appears to have functioned as a coastal settlement specializing in marine-based economic activities and local industries. This comparison highlights the economic specialization of different Harappan settlements.

Conclusion

Kerala-no-dhoro (Padri) represents a significant coastal settlement of the **Indus Valley Civilization**, contributing greatly to our understanding of the cultural, economic, and social developments of both the **Early** and **Mature Harappan periods**. The discovery of residential structures, distinctive pottery, script-like symbols, large copper fish hooks, and probable evidence of salt production demonstrates that Padri was an organized, economically vibrant, and strategically important settlement.

The site provides critical insight into regional diversity within the Indus Civilization, local cultural identities, and the utilization of marine resources. Consequently, the study of Padri remains essential for reconstructing the broader civilizational landscape of the Harappan world.

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Khoso Daro

Introduction

Khoso Daro is an important archaeological site located in Mirpur Mathelo Taluka of Sukkur District, Sindh. The site lies approximately 2.5 kilometers west of Pir Pakhro and southeast of Khehi Khenji. Archaeological evidence suggests that Khoso Daro was contemporaneous with the great urban center of Mohenjo-daro, indicating that it flourished during the Mature Harappan phase of the Indus Valley Civilization (c. 2600–1900 BCE).

Geographical Setting

Khoso Daro is situated in the fertile plains of northern Sindh, a region historically influenced by the Indus River system and its associated channels. The availability of water, arable land, and communication routes would have made the area favorable for permanent settlement. Its location also suggests that it may have been connected to a wider network of Harappan settlements distributed throughout the lower Indus Valley.

Archaeological Significance

The identification of Khoso Daro as a contemporary of Mohenjo-daro underscores its importance within the Harappan cultural sphere. During the Mature Harappan period, settlements ranged from large urban centers to smaller towns and villages, all interconnected through systems of trade, administration, and cultural exchange.

Sites of this period typically exhibit:

- Planned settlement organization
- Standardized pottery traditions
- Craft production and specialized industries
- Agricultural and pastoral activities
- Participation in regional and long-distance trade networks

The chronological association with Mohenjo-daro suggests that Khoso Daro may have played a role in supporting or interacting with larger urban centers in Sindh.

Cultural Context

The Mature Harappan Civilization was characterized by advanced urban planning, standardized weights and measures, extensive trade, and sophisticated craft traditions. Smaller settlements such as Khoso Daro were integral components of this civilization, contributing agricultural products, raw materials, and manufactured goods to the broader Harappan economy.

The existence of Khoso Daro also demonstrates that the cultural influence of the Indus Civilization extended well beyond its major cities, encompassing a diverse hierarchy of settlements across Sindh.

Conclusion

Khoso Daro is a significant archaeological site in Mirpur Mathelo Taluka that provides evidence for the widespread settlement network of the Indus Valley Civilization. Its status as a contemporary of Mohenjo-daro highlights its importance in understanding the distribution and organization of Harappan communities in northern Sindh. Further archaeological surveys and excavations

may reveal valuable information regarding the site's size, occupational history, economic activities, and relationship with other Harappan settlements.

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Koonj Sar

Introduction

Koonj Sar is an important archaeological site located approximately 4 kilometers south of Badin in Badin District, Sindh. Archaeological evidence indicates that the site is associated with the urban phase of the Indus Valley Civilization, particularly the cultural horizon represented by Mohenjo-daro. As such, Koonj Sar provides important evidence for the geographical expansion and cultural influence of the Harappan Civilization in southern Sindh.

Geographical Context

Koonj Sar is situated in the lower Indus region, an area that was historically connected to various distributaries, channels, and waterways of the Indus River system. The availability of water, fertile agricultural land, and transportation routes made the region highly suitable for ancient settlement. During the Harappan period, the Badin area likely played an important role in both riverine and coastal trade networks.

Archaeological Significance

The association of Koonj Sar with the urban civilization represented by Mohenjo-daro highlights its archaeological importance. During the Mature Harappan Period (c. 2600–1900 BCE), settlements such as Koonj Sar formed part of an integrated social, economic, and cultural system that extended across much of the Indus region.

Typical characteristics of settlements from this period include:

- Planned urban and residential architecture

- Standardized pottery traditions
- Craft production and industrial activities
- Advanced agricultural practices
- Regional and long-distance trade networks

These features suggest that Koonj Sar was integrated into the broader Harappan cultural and economic sphere.

Cultural Importance

Sites such as Koonj Sar provide valuable insights into the spread of the Indus Civilization throughout southern Sindh. Such settlements likely served not only as agricultural centers but also as important nodes of trade, craft production, and cultural interaction. Its cultural affiliation with Mohenjo-daro further emphasizes the site's significance within the wider Harappan world.

Conclusion

Koonj Sar is a significant archaeological site in Badin District that contributes to our understanding of the extent and influence of the urban phase of the

Indus Valley Civilization. Its association with the cultural tradition of Mohenjo-daro demonstrates that southern Sindh was an important component of the Harappan cultural landscape. Future archaeological surveys and excavations may provide additional information regarding the site's chronology, settlement organization, economic activities, and cultural connections.

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Kohtras Buthi

Introduction

Kohtras Buthi is one of the important archaeological sites of ancient Sindh, associated with the early developmental phase of the Indus Civilization and the “Rural Culture Phase.” The site is located in Dadu District, in the foothills of the Kirthar Range, approximately 10 kilometers northwest of Karchat. Systematic exploration and excavation of the settlement were conducted by the archaeologist N. G. Majumdar, whose findings revealed that the site represented an important center of early cultural and commercial interaction between Sindh and Balochistan (Majumdar, 1934).

Geographical Location and Trade Significance

One of the most significant features of Kohtras Buthi is its strategic geographical location. The site was situated along an important ancient trade route connecting Balochistan and Sindh. During antiquity, merchant caravans regularly traversed this route, and Kohtras Buthi served as a vital stopping point for traders. Merchants would gather provisions, prepare for onward travel, and engage in the

exchange of goods at this settlement (Possehl, 2002).

It is also plausible that merchants transferred their commodities to caravans heading toward different regions, making Kohtras Buthi an important center of economic interaction and regional exchange. Due to the continuous movement and temporary residence of merchants and caravans, the settlement experienced considerable economic growth. Furthermore, for the settlements situated in the foothills of the Kirthar Mountains, Kohtras Buthi functioned as a central marketplace from where essential goods and supplies could be acquired (Kenoyer, 1998).

Social and Economic Life

The inhabitants of Kohtras Buthi were not nomadic pastoralists but belonged to a settled and organized community. Their economy was primarily based on animal husbandry and agriculture. The people raised sheep, goats, donkeys, bears, and other animals, utilizing them for food, transportation, and daily subsistence.

Agriculture also formed an essential component of their livelihood. A nearby spring supplied drinking water and supported cultivation. Through a system of Gabar Bands (ancient water-retention embankments), rainwater descending from the mountains was conserved and utilized for agriculture. This practice reflects an early form of irrigation and environmental resource management (Mughal, 1997).

Architectural and Cultural Development

The architectural remains discovered at Kohtras Buthi provide substantial evidence of the settlement’s social advancement. N. G. Majumdar uncovered a well-constructed bathroom in one of the houses, demonstrating awareness of hygiene and sanitary practices among the inhabitants. In addition, evidence of a two-storied structure and staircase remains suggest that multi-story buildings were constructed at the site and that floors were paved and well-built (Majumdar, 1934).

This architectural sophistication indicates that the inhabitants of Kohtras Buthi were not merely primitive rural dwellers but had already developed a relatively advanced and organized mode of life. Their settlement planning, sanitation practices, and durable residential structures foreshadow the urban traditions later witnessed in cities such as Mohenjo-daro (Wheeler, 1968).

Fortification and Defensive Importance

A substantial fortification was also discovered at Kohtras Buthi, surrounded by a large residential area. Although it cannot be stated with certainty that the fort was exclusively built for defense during times of danger, it is plausible that it served as a storage facility for merchants’ goods, residences for influential individuals, or a secure place for safeguarding trade commodities (Fairservis, 1975).

Such fortification demonstrates that the settlement functioned not merely as a residential locality but also as an important center for economic activity and caravan security.

Use of Metals

The inhabitants of Kohtras Buthi possessed knowledge of metallurgy, particularly the use of copper for manufacturing tools and vessels. This technological proficiency reflects the development of craftsmanship and indicates the transmission of metallurgical knowledge between Sindh and Balochistan (Kenoyer, 1998).

Historical Importance

Kohtras Buthi is of considerable archaeological significance for understanding the formative stages of the Indus Civilization. The site demonstrates that, prior to the emergence of urban civilization, the essential foundations of settled habitation, trade relations, irrigation systems, pastoralism, defensive construction, and social organization had already been established in ancient Sindh.

In this context, Kohtras Buthi occupies a fundamental position in understanding the socio-economic structure of the Rural Culture Phase and the early

developmental stages of the Indus Civilization.

Conclusion

In conclusion, Kohtras Buthi served as an important commercial, agricultural, and cultural center between Sindh and Balochistan. Its strategic location, trade connections, strong architectural framework, irrigation system, and organized social life collectively highlight its considerable historical and archaeological importance. The material remains recovered from the site demonstrate that the early inhabitants of Sindh were organized, economically active, and culturally sophisticated, laying the groundwork for the later emergence of the great urban civilization of the Indus Valley.

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Kot Bala

Introduction

Balakot, also known as *Kot Bala*, is an exceptionally important archaeological site located in the Lasbela District of Balochistan, Pakistan. Situated near the Makran coast of the Arabian Sea, within the interior region of Sonmiani Bay, the site represents not only an important component of the Indus Valley Civilization but also a center of an earlier and distinct coastal culture that predates the Harappan civilization.

Archaeological evidence suggests that the origins of Balakot date back to approximately 4000 BCE or even earlier, while its Pre-Indus phase has generally been assigned to around 3500–3000 BCE. The site is therefore regarded as one of the significant settlements demonstrating cultural continuity between pre-Harappan coastal societies and the later urban traditions of the Indus Civilization.

The importance of Balakot also lies in the fact that it is among the limited number of Indus-related settlements

directly associated with maritime trade, coastal economy, and overseas interaction. Several scholars have proposed that Balakot functioned as a harbor settlement from which traders of the Indus Civilization sailed toward the coasts of the Arabian Peninsula, Oman, the Persian Gulf, and adjacent maritime regions.

Geographical Setting

Balakot is located in the Lasbela District of Balochistan, within the inner region of Sonmiani Bay. Geographically, this area historically functioned as an important link between the Makran coastal belt and the interior of Balochistan. Its proximity to the Arabian Sea not only provided access to marine resources but also made it strategically advantageous for commerce and cultural exchange.

The settlement occupied an environmentally favorable location where land and sea jointly contributed to the sustainability of human habitation. Marine food resources, fishing activities, maritime exchange, and access to coastal routes likely

played a substantial role in Balakot’s economic development.

Moreover, Balakot’s geographical position suggests that it may have functioned not merely as a local settlement but also as a “cultural bridge” connecting diverse regional traditions and populations.

Discovery and Archaeological Excavations

The academic significance of Balakot increased substantially during the second half of the twentieth century when systematic archaeological surveys and excavations were undertaken at the site. The most significant excavations were conducted during the 1970s under the supervision of George F. Dales, an American archaeologist affiliated with the University of California, Berkeley.

Dales and his research team carried out detailed stratigraphic investigations, revealing that Balakot experienced multiple occupational phases. The upper levels of the site belonged to the Mature Harappan phase of the Indus Civilization, while the lower levels

reflected an independent and earlier coastal cultural tradition.

From an archaeological perspective, an especially significant observation is that the appearance of Harappan influence at Balakot seems to have been relatively abrupt. This suggests that the pre-existing local culture came under Indus influence rather suddenly rather than through a long and gradual process.

Balakot is also considered the only site in the region to have undergone professional archaeological excavation on a substantial scale. Although the complete details of excavation findings were not fully published, the available evidence establishes Balakot as a site of fundamental importance in the study of the coastal dimensions of the Indus Civilization.

Historical and Civilizational Importance

To fully understand Balakot’s importance, it must be viewed not merely as a local settlement but as a maritime cultural center. Scholarly discussions of the Indus Civilization

often emphasize inland urban centers such as **Mohenjo-daro** and **Harappa**; however, coastal settlements like Balakot demonstrate that an important aspect of Harappan civilization was deeply connected to maritime trade and overseas communication.

Researchers have suggested that merchants from the Indus Civilization may have sailed from Balakot toward maritime regions of Arabia. It is also possible that the settlement functioned as a center for the exchange of raw materials, marine products, and crafted goods.

Balakot's historical importance further derives from its association with the broader *Kech-Makran cultural network*, which dates back to the fifth millennium BCE. This indicates that coastal Balochistan possessed early forms of organized settlement and economic activity long before the emergence of the urban Harappan world.

Chronological Framework

Based on archaeological evidence and radiocarbon dates, Balakot experienced several developmental phases:

1. **Early or Pre-Indus Phase (Balakot Phase)** — approximately 4000–3000 BCE

2. **Transitional Phase** — a period during which Harappan influence gradually emerged within the local culture

3. **Mature Harappan Phase** — approximately 2500–1900 BCE

4. **Later Occupation Phase** — characterized by limited human activity

The pottery and material remains associated with the Balakot Phase indicate that the settlement possessed a distinct cultural identity, which later developed close connections with the broader cultural sphere of the Amri and Indus traditions.

Conclusion

Balakot represents a highly significant coastal archaeological settlement within the broader framework of the Indus Valley Civilization. It not only sheds light on the maritime dimension of Harappan civilization but also provides important evidence for the continuity of earlier coastal cultures in Balochistan.

The site’s geographical location, archaeological findings, and multiple cultural phases collectively demonstrate that Balakot played a central role in the maritime history of ancient South Asia.

The Balakot Phase: A Distinct Coastal Culture

Archaeological investigations at Balakot indicate that the lower occupational layers of the site belonged to a cultural tradition that predates the Mature Indus Civilization and is generally referred to as the **“Balakot Phase.”** This phase is usually dated to approximately **3500–3000 BCE**, although some scholars suggest that the settlement may have begun as early as **4000 BCE**.

Archaeological evidence demonstrates that this coastal culture possessed a

distinct identity characterized by its material culture, ceramic traditions, and settlement patterns. The Balakot Phase is especially significant because it provides crucial evidence for understanding the social and economic evolution of coastal communities in Balochistan prior to the emergence of the urban Harappan civilization.

Furthermore, it suggests that organized settlement, artisanal production, and commercial activities existed in coastal regions long before the rise of the Mature Indus urban centers.

Scholars also argue that the early cultural phase of Balakot was linked with other regional traditions of Balochistan, particularly the cultural sphere associated with **Nal**, as well as the wider Kech-Makran cultural network, whose influence later became integrated into the extensive cultural system of the Indus Civilization.

The Kech-Makran Cultural Network

Balakot should not be examined in isolation; rather, it formed part of a broader coastal cultural system known

as the **Kech-Makran Culture**. This cultural network extended through the Kech River Valley, the Makran coastal region, and adjacent settlements in coastal Balochistan.

Research suggests that as early as the fifth millennium BCE, small communities in this region were already engaged in agriculture, pastoralism, fishing, and limited trade. Within this regional system, Balakot likely functioned as an important center of interaction and communication.

Its significance lies in the fact that coastal settlements such as Balakot were not dependent solely on local economies but may also have developed increasingly complex social structures due to maritime resources and interregional contacts.

Pottery Traditions

One of the most important archaeological discoveries at Balakot is its ceramic assemblage, which serves as a key source for understanding the site’s cultural development.

Most of the pottery discovered at Balakot consists of **wheel-made red ware**, indicating the existence of advanced ceramic technology and organized craft production. This demonstrates that local potters possessed considerable technical skill and followed established manufacturing traditions.

However, some large **storage jars** were handmade, suggesting the coexistence of multiple production techniques within the same community.

The pottery of Balakot is characterized by several notable artistic features, including:

- Complex **floral motifs**
- **Zoomorphic (animal-inspired) designs**
- Decorative use of red, black, and occasionally green pigments producing a **polychrome effect**
- Various **geometric patterns**

Balakot pottery exhibits strong similarities with the ceramic traditions of the **Nal Culture**, suggesting cultural and technological interaction between coastal Balakot and the interior regions of Balochistan.

At the same time, pottery from the later Balakot Phase shows remarkable resemblance to the ceramic style of the **Amri Culture**, indicating sustained cultural interaction between Sindh and coastal Balochistan.

Industry and Technological Skill

Excavations at Balakot have yielded important evidence concerning industry and artisanal production. Archaeologists discovered an **early furnace** in the pre-Indus occupational levels, which was most likely used for firing pottery or producing other ceramic objects.

This discovery is particularly important because it indicates the presence of organized production systems and early technological specialization at the site.

In layers belonging to the **Mature Harappan period (c. 2500–1900**

BCE), archaeologists also uncovered **ovens and kilns**, which were likely used for food preparation and possibly industrial purposes.

These findings strongly suggest that Balakot was not simply a residential settlement but also a center of production where pottery, domestic goods, and perhaps materials intended for maritime trade were manufactured.

Maritime Economy and Trade

Balakot's geographical setting made it exceptionally suitable for maritime exchange. Its location near Sonmiani Bay provided direct access to the Arabian Sea and major maritime routes.

Several scholars have proposed that Balakot functioned as an **ancient harbor settlement**, from which merchants of the Indus Civilization sailed toward regions such as Arabia, Oman, and the Persian Gulf.

It is possible that the following commodities were exchanged through Balakot:

- Marine products, including fish and shell resources
- Pottery and ceramic goods
- Handcrafted materials
- Raw materials and possibly agricultural products

Balakot’s maritime significance highlights an important dimension of the Indus Civilization that is often overshadowed by studies focused primarily on inland urban centers.

Connections with the Indus Civilization

The upper occupational levels of Balakot contain unmistakable Harappan characteristics, demonstrating that the settlement eventually became integrated into the wider cultural and economic network of the Indus Civilization.

Interestingly, archaeologists suggest that Harappan influence at Balakot appears to have emerged relatively suddenly rather than gradually. This

may indicate one or more of the following possibilities:

1. Merchants or settlers from the Indus Civilization directly established a presence at Balakot;

2. Local communities rapidly adopted Harappan cultural features through trade interactions;

3. Balakot developed into an economically strategic center due to increasing maritime commercial demands.

The study of Balakot further demonstrates that the Indus Civilization was not a culturally uniform system but rather a broad and complex civilization composed of diverse regional traditions.

Conclusion

The Balakot Phase and its associated material culture clearly demonstrate that coastal Balochistan possessed early forms of economic organization and settlement before the emergence of the Mature Indus Civilization. Sophisticated pottery traditions, evidence of furnaces,

maritime economy, and later Harappan influence collectively establish Balakot as a major site in the ancient maritime history of South Asia.

Social Organization and Population Structure

Archaeological evidence from Balakot indicates that the site was not a transient coastal camp but a relatively stable and continuously occupied settlement. Although it does not display the scale of urban planning found at major Mature Harappan cities such as Mohenjo-daro or Harappa, it nonetheless represents a well-organized coastal community embedded within broader exchange networks.

The social structure of Balakot is inferred from material remains, ceramic distribution, occupational layers, and evidence of craft production. It is likely that the population was organized into specialized occupational groups, including:

- Fishing communities engaged in marine exploitation
- Potters and ceramic specialists

- Traders involved in maritime exchange
- Small-scale agricultural or pastoral groups

Such a division of labor suggests a moderately complex society shaped by coastal environmental constraints and maritime economic opportunities.

Settlement Pattern and Architecture

Excavations at Balakot have revealed limited but significant traces of habitation structures. These indicate the use of locally available materials such as mud, clay, and possibly mud-brick construction techniques.

The settlement layout appears to have been adapted to environmental conditions rather than following rigid urban planning principles. Coastal winds, humidity, and saline conditions likely influenced architectural choices, leading to simple but functional construction methods.

The presence of ovens and furnaces in Mature Harappan layers suggests that

food preparation and craft production were organized within domestic or semi-industrial spaces.

Unlike the grid-based urban planning of Mohenjo-daro, Balakot reflects a more flexible and environmentally responsive settlement organization.

Subsistence and Economic Life

The subsistence economy of Balakot was closely tied to its coastal environment. Marine resources likely formed the foundation of local livelihood systems, supplemented by limited agriculture and animal husbandry.

Probable food sources included:

- Fish and other marine organisms
- Shellfish and coastal resources
- Livestock products
- Agricultural goods from nearby regions
- Exchange-based acquisition of goods through trade networks

Shell collection may also have played an important economic role, as shells were widely used in ancient South Asian craft

traditions for ornaments and decorative objects.

The direct access to marine resources provided Balakot with an economic advantage over inland settlements and likely supported its participation in regional exchange systems.

Symbolic and Cultural Aspects

Although no clearly identifiable ritual structures have been discovered at Balakot, symbolic elements can be inferred from decorative motifs on pottery. Floral designs, animal representations, and geometric patterns may reflect cultural meanings associated with nature, fertility, or cosmological beliefs.

In many ancient societies, animal imagery is often linked to symbolic ideas such as strength, abundance, or spiritual significance. Similarly, floral motifs may reflect agricultural cycles or environmental awareness.

Given its coastal setting, it is plausible that water, marine life, and seasonal cycles played an important role in the

symbolic worldview of Balakot’s inhabitants. However, such interpretations remain cautious due to the absence of direct ritual evidence.

Comparative Analysis with Other Indus and Pre-Indus Sites

The comparative study of Balakot highlights its role as an intermediary between multiple cultural zones of ancient South Asia.

1. Comparison with Amri

Later ceramic traditions at Balakot show strong similarities with the Amri culture, indicating sustained cultural interaction between Sindh and coastal Balochistan.

2. Comparison with Nal

The polychrome and stylistically rich pottery of Balakot reflects affinities with Nal cultural traditions, suggesting technological and artistic exchange within Balochistan.

3. Comparison with Mohenjo-daro and Harappa

In contrast to the large urban centers of the Indus Civilization, Balakot was smaller, coastal, and economically oriented toward maritime exchange. While Mohenjo-daro represents urban planning and administrative complexity, Balakot represents coastal adaptation and maritime connectivity.

4. Comparison with Sutkagen Dor

Like Sutkagen Dor, another coastal Harappan site, Balakot demonstrates maritime engagement. However, Balakot is particularly significant due to its strong pre-Harappan cultural foundation, which is less prominent at other coastal Indus sites.

Scholarly Significance

Balakot holds exceptional importance in South Asian archaeology for several reasons:

1. It provides key evidence for pre-Harappan coastal cultural development.
2. It demonstrates early forms of maritime economy and exchange.

3. It reveals cultural interaction between Balochistan, Sindh, and the Arabian Sea region.
4. It highlights the maritime dimension of the Indus Civilization.
5. It shows early technological specialization in pottery and furnace use.

The site challenges earlier assumptions that the Indus Civilization was primarily a river-based phenomenon by demonstrating its strong coastal and maritime dimensions.

Conclusion

Balakot represents a crucial maritime archaeological site in ancient South Asia, preserving evidence of both pre-Indus and Harappan cultural phases. Its archaeological record illustrates the development of coastal economies, craft specialization, and interregional exchange systems.

The evidence from Balakot suggests that coastal Balochistan was not peripheral but central to early interaction networks that contributed to the formation of the Indus Civilization.

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Kili Gul Muhammad

Introduction

Kili Gul Muhammad is one of the most significant prehistoric archaeological sites in Pakistan, located approximately three miles from the city of Quetta in Balochistan. The site was discovered during archaeological surveys conducted between 1950 and 1951 by the American archaeologist **Walter A. Fairservis, Jr.** of the American Museum of Natural History. The excavations revealed a long sequence of human occupation dating back to the early Neolithic period, making Kili Gul Muhammad one of the earliest known farming communities in South Asia.

The site belongs to the pre-urban or village phase of cultural development, predating the emergence of the Indus Valley Civilization by several millennia. Archaeological evidence suggests that the earliest occupation at Kili Gul Muhammad dates to approximately **4200 BCE**, although subsequent

research has indicated that some levels may be even older.

Discovery and Archaeological Investigations

Walter Fairservis identified Kili Gul Muhammad while conducting extensive surveys in the Quetta Valley. Excavations exposed a cultural sequence nearly forty feet deep, providing valuable evidence for the transition from hunting and gathering to settled village life.

The deepest levels of the mound contained remains of people who had not yet adopted pottery. These early inhabitants used simple stone tools, including knives, as well as bone needles and spearheads. Their material culture reflects a Neolithic way of life characterized by simplicity and adaptation to local environmental conditions.

Settlement and Economy

The inhabitants of Kili Gul Muhammad lived in houses constructed from sun-dried mud bricks. Archaeological

evidence indicates that they practiced animal husbandry, particularly the herding of sheep and goats. They were also familiar with agriculture and cultivated crops to supplement their food supply.

The combination of farming and pastoralism represents an important stage in human development, marking the shift from a nomadic lifestyle to permanent settlement. The presence of domesticated animals suggests that meat formed an important part of their diet, while agricultural activities provided a stable source of food.

Pottery Development

One of the most remarkable aspects of Kili Gul Muhammad is the evidence it provides for the evolution of pottery technology.

The earliest inhabitants were unfamiliar with pottery production. However, later levels of the site reveal the gradual introduction and development of ceramic traditions. The earliest vessels were thick, coarse, and crudely made,

reflecting the experimental stages of pottery manufacture.

Over time, pottery production became increasingly sophisticated. Archaeologists have identified two major ceramic traditions in the upper levels of the site:

Zhob Ware

The first category consists of pottery commonly known as **Zhob Ware**, named after the Zhob and Loralai valleys where similar ceramics were widely distributed. These vessels are characterized by:

- A dark red slip.
- Black painted geometric designs.
- Careful craftsmanship and improved firing techniques.

Many examples feature artistic depictions of animals, particularly deer and humped cattle, demonstrating the growing aesthetic abilities of the potters.

Quetta Ware

The second category is known as **Quetta Ware**, first identified in the Quetta region. Unlike Zhob Ware, these vessels possess:

- A light gray or buff-colored surface.
- Simpler decorative motifs.
- Fewer representations of animals.

The emergence of these ceramic traditions reflects increasing technological specialization and cultural complexity within the communities of the Quetta Valley.

Cultural Significance

Kili Gul Muhammad occupies a crucial position in the cultural chronology of South Asia. It documents the transformation from aceramic Neolithic communities to settled agricultural villages with developed ceramic traditions. The site demonstrates that the foundations of later urban civilizations were laid through gradual processes of technological innovation, agricultural development, and social organization.

The evidence from Kili Gul Muhammad has enabled archaeologists to trace the origins of village life in Balochistan and to understand the cultural developments that eventually contributed to the rise of the Indus Valley Civilization.

Conclusion

Kili Gul Muhammad is among the earliest known agricultural settlements in Pakistan and South Asia. Its archaeological sequence provides invaluable evidence for the emergence of farming, animal domestication, permanent settlement, and pottery production. The site illustrates the gradual evolution of human societies from simple Neolithic communities to increasingly complex village cultures that formed the foundation for later urban civilizations. As such, Kili Gul Muhammad remains a key site for understanding the prehistoric development of the northwestern subcontinent.

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Kot Diji

Introduction

Kot Diji is one of the most significant archaeological sites in Sindh, associated with the early phase of the Indus Valley Civilization (IVC). Situated in the present-day province of Sindh, Pakistan, approximately 45 kilometers south of Khairpur, the site lies on the eastern bank of the Indus River, opposite Mohenjo-daro. Archaeologically, Kot Diji holds exceptional importance not only because of its antiquity but also due to the evidence it provides for the formative stages of the Indus Civilization, illustrating the transition from Pre-Harappan to Early Harappan cultural developments.

The site is estimated to have been occupied around 3300 BCE, making it one of the earliest urban centers of the Indus Valley Civilization. Excavations have demonstrated that Kot Diji possessed an organized settlement system, defensive fortifications, mud-brick architecture, standardized pottery, and developing craft traditions, all of which later became defining

characteristics of the Mature Harappan Civilization.

Geographical Setting and Significance of the Site

Kot Diji is located in the Khairpur District at the foothills of the Rohri Hills. This region has historically been favorable for human settlement because of the availability of water resources, fertile agricultural land, and lithic materials. During a later historical period, the renowned Kot Diji Fort was constructed nearby around 1790 CE by the Talpur ruler of Upper Sindh, Mir Sohrab Khan, and remains remarkably well preserved.

Archaeological evidence indicates that the settlement comprised two major components: an elevated citadel area and a lower residential settlement. The citadel was enclosed by defensive walls reinforced with bastions, likely serving as an administrative or elite sector, while the lower settlement accommodated the general population.

Excavation and Discovery

The archaeological remains of Kot Diji were excavated by the Department of Archaeology, Government of Pakistan, in 1955 and 1957. A particularly significant excavation campaign was conducted during 1954–1955 under the supervision of archaeologist F. A. Khan, whose work revealed compelling evidence for an early or formative phase of the Indus Civilization.

The discoveries led scholars to identify a distinct cultural assemblage later termed the “Kot Dijian Culture.” This culture belongs to the Early Harappan period and flourished approximately between 3300 BCE and 2800 BCE. Kot Diji is considered the “type site” of this cultural tradition because the earliest systematic identification and study of this archaeological phase were carried out there.

Kot Dijian Culture and the Early Harappan Period

The Kot Dijian Culture is regarded as a transitional developmental stage of the Indus Valley Civilization, during which early agrarian settlements gradually evolved into more organized urban

centers. This period witnessed notable advancements in social organization, craft production, trade, and defensive planning.

Archaeologists argue that settlements such as Kot Diji and Amri initially developed as indigenous cultural centers with overlapping characteristics. Over time, interaction among these communities contributed to the emergence of the Early Harappan cultural tradition, which eventually evolved into the Mature Harappan Civilization.

Several related archaeological sites have also been identified, including Rehman Dheri, Kunal, Kalibangan, and Amri, all of which display significant cultural parallels with Kot Diji.

Architectural Features

The earliest structures at Kot Diji were constructed primarily from unbaked mud bricks. Archaeological evidence suggests that the city was enclosed by a defensive wall reinforced with bastions at regular intervals. The citadel area

extended approximately 150 × 110 meters.

Residential structures were built using mud bricks laid upon stone foundations, reflecting an advanced understanding of construction techniques for the period. Similar forms of urban planning later became more sophisticated in major Indus cities such as Mohenjo-daro and Harappa.

Material Culture and Artifacts

The archaeological assemblage recovered from Kot Diji offers valuable insights into the social and economic life of its inhabitants. Excavators uncovered a variety of artifacts, including pottery vessels, storage jars, pans, toy carts, beads, bangles, terracotta figurines of animals and a mother goddess, and carefully crafted stone tools.

The pottery discovered at the site features geometric motifs such as horizontal, wavy, and triangular patterns, alongside fish-scale designs. Certain ceramics also depict bulls’ heads, fish, and pipal leaves, which may

have possessed symbolic or religious significance.

A particularly noteworthy discovery is a toy cart, which demonstrates the use of wheeled technology and suggests the possible existence of bullock carts during this period. Additionally, finely manufactured lithic tools and arrowheads have been recovered from the site.

Metallurgy and Technological Development

In the earliest occupational layer, referred to as Kot Diji I, there is little evidence for the use of copper or bronze, indicating a relatively early technological phase. In subsequent phases, however, bronze appears to have been used in limited quantities, particularly for personal ornaments.

Evidence also suggests the use of the potter’s wheel, enabling the production of more refined and standardized ceramics. This technological advancement later became fundamental to the industrial and artistic

sophistication of the Mature Harappan Civilization.

Early Indus Script and Standardization

Some pottery fragments and sealings recovered from Kot Diji bear incised markings that may represent an early form of the Indus script. Archaeologists have also identified evidence for standardized weights and seals, indicating the existence of an organized system of trade and administration.

Transition to the Harappan Phase

The stratigraphic sequence at Kot Diji clearly demonstrates a gradual cultural transition from the earlier indigenous phase to the Mature Harappan period. Polychrome pottery traditions were progressively replaced by red-slipped ceramics decorated with black painted motifs, which later became characteristic of Harappan material culture.

This transition indicates that Kot Diji was not merely an isolated cultural center but played an important role in the

broader urban development of the Indus Valley Civilization.

Conclusion

Kot Diji represents one of the most crucial archaeological sites for understanding the emergence of early urbanism in the Indus Valley Civilization. The material evidence recovered from the site illuminates the social, economic, and cultural dynamics of the Pre-Harappan and Early Harappan periods while demonstrating that the Indus Civilization emerged through a gradual evolutionary process rather than sudden development. Its fortifications, standardized pottery, early inscriptions, and evidence of organized settlement planning establish Kot Diji as a site of exceptional historical and archaeological significance in Sindh.

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Kotada Bhadli

Kotada Bhadli is an important archaeological site associated with the Indus Valley Civilization (Harappan Civilization). The site has gained considerable scholarly importance because archaeological investigations have revealed **direct evidence of dairy production**, as well as the discovery of a **caravanserai-like trading structure**, both of which are significant for understanding Harappan economic organization, trade, and pastoral systems.

Introduction

The Indus Valley Civilization, which flourished approximately between **3300 BCE and 1300 BCE**, is considered one of the earliest urban civilizations in human history. Kotada Bhadli is among the Harappan sites that provide valuable evidence not only regarding habitation and economic activities, but also concerning trade organization, animal husbandry, food production, and interregional interaction.

Recent archaeological research suggests that the site belongs approximately to the period between **2300 BCE and 1900 BCE**, corresponding to the **Mature Harappan phase** of the Indus Civilization. Scientific analyses have significantly enhanced scholarly understanding of the site's role in regional economic systems.

Geographic Location and Environmental Significance

Kotada Bhadli is located in the **Kachchh district of Gujarat, India**, in an area situated near the confluence of seasonal waterways. In antiquity, this geographic setting would have been advantageous

for caravan movement and commercial exchange. Archaeologists suggest that the site may have served as an intermediary economic center linking larger urban settlements with smaller rural communities.

The strategic location of the settlement indicates that it likely played a role in facilitating inland trade routes across western India. Its placement within the broader Harappan network underscores the regional diversity of the civilization’s economic system.

Discovery and Excavation History

The site was first identified during **1965–1966**, when Harappan pottery fragments and stone tools were recovered. Later, between **2010 and 2013**, systematic excavations were conducted jointly by the **Deccan College Post-Graduate and Research Institute** and the Gujarat State Archaeology Department.

The principal objective of these excavations was to understand the economic functions of smaller Harappan

settlements and their role within broader regional networks.

Archaeological discoveries at the site included:

- Structural remains of habitation
- Pottery assemblages
- Evidence of pastoral activities
- Animal bones
- Shell artifacts
- Trade-related architectural features

Collectively, these findings indicate that Kotada Bhadli occupied a complex economic position within Harappan society.

Evidence of Dairy Production

One of the most significant scholarly contributions of Kotada Bhadli lies in the discovery of some of the **earliest direct evidence for dairy production in South Asia**. Researchers conducted **lipid residue analyses** on pottery vessels and identified molecular traces associated with milk processing, likely involving cattle or buffalo milk.

This discovery is particularly important because it demonstrates that dairy consumption formed an integral component of Harappan subsistence strategies. The findings suggest:

1. Milk and dairy products were regularly consumed;
2. Pastoralism was highly developed;
3. Animals were raised not only for meat but also for milk production;
4. Harappans possessed technological knowledge regarding food processing.

The evidence from Kotada Bhadli therefore strengthens arguments that pastoral economies played an essential role alongside agriculture in sustaining Harappan society.

Discovery of a Caravanserai: A New Perspective on Harappan Trade

Perhaps the most intriguing archaeological finding at Kotada Bhadli is the identification of a **caravanserai-like structure**. According to recent archaeological interpretations, the site may represent one of the **earliest known examples of a trading rest**

station, where merchants, pack animals, and goods temporarily halted during long-distance journeys.

Although the classical caravanserai tradition is usually associated with later Asian and Middle Eastern trade systems, archaeologists argue that Kotada Bhadli may represent an early precursor to such institutions.

Evidence supporting this interpretation includes:

- Defensive fortifications surrounding the settlement;
- Limited evidence of large-scale industrial production;
- Traces associated with animal accommodation;
- Strategic geographic positioning along trade routes.

These observations suggest that Kotada Bhadli functioned as a **temporary trading and transit center**, facilitating exchange between different Harappan regions. Such findings substantially revise earlier assumptions regarding the sophistication of Harappan inland commerce.

Economic Importance

Kotada Bhadli exemplifies the **mixed economic structure** of the Indus Civilization, where multiple subsistence strategies operated simultaneously, including:

- Agriculture
- Animal husbandry
- Dairy production
- Trade and exchange
- Regional interaction networks

Isotopic analyses of domesticated animal teeth further indicate systematic livestock management practices, suggesting specialized pastoralism during the Harappan period.

Cultural and Social Significance

The study of Kotada Bhadli demonstrates that smaller Harappan settlements were not isolated villages but integrated components of a large and interconnected urban civilization. Such settlements facilitated trade, movement of livestock, cultural interaction, and regional communication.

The site therefore contributes significantly to understanding the social complexity and organizational sophistication of the Indus Valley Civilization.

Conclusion

Kotada Bhadli represents an exceptionally important archaeological site for reconstructing the economic, agricultural, and commercial systems of the Indus Valley Civilization. The evidence for dairy production not only reshapes interpretations of South Asian food history but also reveals the significance of livestock management in Harappan life.

Similarly, the discovery of a caravanserai-like structure suggests that Harappan trade networks possessed a level of infrastructural organization previously underestimated by scholars. Consequently, Kotada Bhadli occupies a critical position in understanding Harappan economic geography, food culture, and long-distance exchange systems.

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Kunal

Introduction

Kunal is an important archaeological site located in the Indian state of Haryana and is associated with the Pre-Harappan phase of the Indus Valley Civilization. Situated in the Fatehabad district, the site holds considerable archaeological importance for understanding the early development of Indus civilization, social organization, trade networks, and agrarian economy. Kunal is particularly significant because the material evidence discovered at the site provides valuable insights into the developmental stages of society before the emergence of urban Harappan civilization.

Unlike major urban centers of the Indus civilization such as Rakhigarhi, Kalibangan, and Harappa, Kunal was not a large city but rather a village settlement. Nevertheless, archaeological evidence suggests that even at this rural stage, early forms of social organization, craftsmanship, trade, and cultural development had already emerged, eventually contributing to the rise of the Mature Harappan urban civilization.

Geographical Setting and Environmental Background

Kunal is situated in the Fatehabad district of Haryana, India, approximately 30 kilometers northeast of Fatehabad city. It lies around 12 kilometers southeast of Ratia and 12 kilometers northwest of Bhuna. Geographically, the site is associated with the ancient Saraswati–Ghaggar river system, which many scholars regard as one of the principal regions for the early development of the Indus civilization.

In antiquity, this area was highly suitable for agricultural production. Seasonal rivers, fertile soils, and grazing

lands encouraged the establishment of permanent settlements. Archaeologists argue that Kunal's proximity to the Saraswati–Ghaggar river system likely enabled it to function as an important center for trade and cultural interaction. Moreover, Kunal formed part of a broader regional cultural network due to its proximity to major archaeological settlements such as Bhirrana, Banawali, Rakhigarhi, and Balu.

Importance of Kunal in the Early Indus Civilization

Kunal occupies a prominent position in archaeological scholarship because its cultural layers provide critical evidence for understanding the formative stages of the Indus civilization. Excavations reveal that the settlement existed long before the urban Mature Harappan period. Some researchers even suggest that the cultural sequence at Kunal may predate sites such as Rehman Dheri.

Archaeological evidence indicates that Kunal experienced three major phases of continuous occupation, each reflecting internal cultural development during the Pre-Harappan period. These

phases demonstrate that the inhabitants were not merely dependent on agriculture but had already developed craft production, trade systems, and early social structures. Discoveries of pottery, ornaments, and metal artifacts indicate the presence of an increasingly sophisticated rural society.

History of Discovery and Excavations

Kunal entered modern archaeological discourse following its identification as an archaeological site in 1986, when preliminary surveys revealed pottery fragments, mud-brick remains, and other material evidence of ancient habitation. Subsequently, systematic excavations were carried out during several field seasons, including 1992–93, 1996–97, 1998–99, 1999–2000, 2001–2002, 2002–2003, 2017–2021, and 2023–24.

These excavations were conducted by several institutions, including the Archaeological Survey of India, the Indian Archaeological Society, the National Museum, and the Haryana Archaeological Department. Recent

excavations have sought to reach deeper cultural deposits in order to reconstruct the full occupational sequence of the settlement. Reports indicate that excavation teams planned to dig to depths of approximately 20 meters, while the earliest cultural layer was discovered at around 3 meters below the present ground surface.

Kunal Culture

One of the most important characteristics of Kunal is its distinct ceramic tradition, which has led archaeologists to classify the “Kunal Culture” as a separate archaeological culture or subculture. The pottery assemblage, decorative patterns, manufacturing techniques, and stylistic characteristics reveal a distinct cultural identity among the inhabitants.

Both handmade and wheel-made ceramics have been recovered from the site. These include red ware pottery, black-painted vessels, storage jars, bowls, and utilitarian household objects. Such material remains indicate that the inhabitants of Kunal possessed not only an agrarian lifestyle but also an

emerging tradition of craft specialization.

Excavation Phases and Cultural Stratigraphy

Kunal has revealed, through archaeological excavations, evidence of a long and continuous sequence of occupation rather than a single-period settlement. Archaeologists have identified three successive cultural phases belonging to the Pre-Harappan period, each illustrating gradual social, technological, and economic development.

Cultural stratigraphy is of central importance in archaeology because it enables scholars to reconstruct patterns of settlement, social organization, construction techniques, and economic transformations over time. The stratified deposits at Kunal demonstrate that the settlement gradually evolved from a relatively small agrarian village into a more organized and culturally sophisticated community.

The earliest occupational phase appears to represent a relatively simple form of

settlement characterized by limited architecture, rudimentary craftsmanship, and subsistence-oriented agriculture. During the second phase, material culture became increasingly complex, while the third phase reflects considerable advancement in social organization, trade interaction, and technical skills.

Residential Structures and Architectural Traditions

Archaeological remains suggest that the inhabitants of Kunal constructed their dwellings primarily using mud bricks and locally available materials. Most residential units appear to have been rectangular or square in shape, likely containing designated spaces for habitation, storage, and domestic activities.

Unlike the highly organized urban planning visible at major Mature Harappan centers such as Mohenjo-daro and Harappa, Kunal does not exhibit evidence of advanced city planning. However, its structural remains indicate the early emergence of organized habitation patterns, suggesting that

basic principles of settlement planning and social order had already begun to develop.

The presence of storage facilities within residential contexts further implies food preservation practices and agricultural surplus, reinforcing the interpretation that Kunal supported a permanent rather than seasonal population.

Pottery and Material Culture

The ceramic assemblage recovered from Kunal constitutes one of the site’s most significant archaeological discoveries and serves as a key basis for identifying the distinct “Kunal Culture.”

Excavations have uncovered both handmade and wheel-made pottery. Many vessels are decorated with black painted motifs, while others display geometric designs, linear patterns, and symbolic artistic expressions. Red ware pottery, large storage jars, water containers, bowls, cups, and cooking vessels have been discovered in substantial numbers.

The high quality of ceramic production suggests the presence of an organized craft tradition within the settlement. This evidence also points toward the emergence of specialized artisans capable of producing goods beyond immediate domestic needs.

Metallurgy and Ornaments

Excavations at Kunal have yielded important evidence of early metallurgy, contributing significantly to our understanding of technological development during the Pre-Harappan period. Copper objects, tools, ornaments, and small artifacts indicate that the inhabitants possessed knowledge of basic metalworking techniques.

In addition, archaeologists discovered ornaments made from semi-precious stones, shells, beads, and other decorative materials. These artifacts not only reflect aesthetic preferences but also provide strong evidence for long-distance exchange networks. Since several of these raw materials were not locally available, their presence implies the existence of regional trade systems.

Such discoveries demonstrate that Kunal was not merely an isolated agricultural village but a settlement engaged in technological production and wider economic interaction.

Agriculture and Animal Husbandry

The economy of Kunal was primarily based on agriculture and livestock management. Archaeological evidence related to food storage, agricultural processing, and subsistence activities suggests that the inhabitants cultivated crops such as wheat, barley, and possibly other cereals, similar to those documented at other early Indus settlements.

Zooarchaeological studies of animal bones indicate that cattle, sheep, goats, and possibly other domesticated animals were reared by the inhabitants. The integration of farming and pastoralism created a stable economic system capable of sustaining long-term settlement.

This combined agricultural-pastoral economy likely formed the material

foundation upon which increasing social complexity emerged.

Trade Networks and Regional Interaction

One of Kunal’s most significant features is its participation in broader trade and cultural networks. Archaeological evidence suggests that the settlement maintained contact with major Pre-Harappan and Early Harappan centers, including Kalibangan, Lothal, Bhirrana, and Rakhigarhi.

Trade in ancient societies extended beyond the exchange of material goods; it also facilitated the transmission of technological knowledge, cultural traditions, and symbolic systems. Similarities in pottery styles, ornaments, and material culture indicate sustained interaction among settlements within the broader Indus cultural sphere.

Archaeological Perspective on Social Organization

Archaeological evidence from Kunal suggests that society may not have been entirely egalitarian. Variations in

housing, ornament distribution, and craft production imply unequal access to resources among different social groups. Although clear evidence of centralized political authority remains absent, the site nonetheless reflects the emergence of an increasingly structured social order.

This evidence is particularly significant because it demonstrates that the urbanism of the Mature Harappan period did not emerge suddenly; rather, it developed gradually through earlier village-based communities such as Kunal.

Kunal Culture: A Distinct Archaeological Tradition

Kunal has yielded a substantial body of archaeological evidence, including pottery, architectural remains, metallurgical artifacts, and ornaments, leading scholars to identify a distinct archaeological tradition commonly referred to as the “Kunal Culture.” This cultural horizon is particularly recognized for its unique ceramic assemblage, early craftsmanship, and

evidence of emerging social organization.

The pottery of Kunal is characterized by red ware decorated with black-painted motifs, geometric designs, and distinctive stylistic patterns that differentiate it from several neighboring Pre-Harappan traditions. Archaeologists have argued that the material culture of Kunal may have contributed significantly to the technological and cultural developments that later became characteristic of the Early Harappan phase.

The importance of Kunal lies not merely in its antiquity but also in the continuity of occupation and cultural development evident at the site. Archaeological findings indicate that the rise of the Indus civilization was not an abrupt transformation but rather the result of a long-term process of gradual social and technological evolution.

Comparative Analysis with Other Indus Valley Sites

A comparative study of Kunal demonstrates that while the site shared

important characteristics with other settlements of the Indus tradition, it also possessed distinct regional features.

1. Kunal and Rakhigarhi

Rakhigarhi is among the largest urban settlements of the Indus civilization, whereas Kunal was comparatively a small village settlement. However, similarities in material culture and geographic proximity suggest that settlements such as Kunal may have contributed to the developmental foundations of larger urban centers like Rakhigarhi.

2. Kunal and Kalibangan

Kalibangan appears to have maintained trade and cultural interaction with Kunal. Similarities in pottery traditions and craft production indicate regional exchange networks connecting the two settlements.

3. Kunal and Bhirrana

Bhirrana is likewise regarded as one of the earliest settlements associated with the Saraswati–Ghaggar river system.

Both Kunal and Bhirrana have contributed significantly to debates concerning the origins and chronology of the Indus civilization. Several scholars argue that these settlements flourished well before the Mature Harappan urban phase.

4. Kunal and Rehman Dheri

Rehman Dheri, located in present-day Pakistan, is another important Pre-Harappan settlement frequently compared with Kunal. Some archaeologists suggest that certain cultural elements at Kunal may predate those found at Rehman Dheri, although this remains an area of ongoing scholarly debate.

Social and Economic Significance

Archaeological evidence from Kunal demonstrates that Pre-Harappan society was not merely composed of isolated agricultural villages but included developing systems of social organization, craft specialization, and trade. Agriculture, animal husbandry, artisanal production, and regional exchange collectively formed an

economic foundation that eventually supported urban growth.

The discovery of ornaments, pottery, copper artifacts, and semi-precious materials further suggests that Kunal was integrated into regional exchange systems. Such interactions likely facilitated not only economic exchange but also the circulation of technological knowledge and cultural practices.

Archaeological Importance

Kunal possesses exceptional archaeological significance for several reasons:

- It provides crucial evidence for understanding the formative stages of the Indus civilization.
- The site’s continuous cultural layers allow scholars to examine long-term patterns of settlement development.
- The identification of the “Kunal Culture” contributes to understanding regional diversity during the Pre-Harappan period.
- The site plays an important role in debates concerning early

settlement along the Saraswati–Ghaggar river system.
- Archaeological findings from Kunal have contributed significantly to broader discussions regarding the origins of Harappan urbanism.

Conclusions

In conclusion, Kunal, Haryana, represents one of the most significant archaeological sites for understanding the early developmental phases of the Indus Valley Civilization. Although it functioned primarily as a village settlement rather than an urban center, the archaeological remains demonstrate that its inhabitants engaged in agriculture, animal husbandry, craft specialization, metallurgy, and regional trade.

The cultural layers, pottery traditions, ornaments, residential structures, and metallurgical remains discovered at Kunal collectively reveal that the foundations of the great urban Harappan civilization were established in settlements of this nature. Therefore, Kunal should be understood not merely as an archaeological site but as an

important testimony to the gradual evolution of one of the world's earliest civilizations.

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Kuntasi

Introduction

Kuntasi, also locally known as **Bibi-no-Timbo**, is an important archaeological site of the Indus Valley Civilization (IVC), located in the Maliya Taluka of Morbi District in the modern Indian state of Gujarat. Owing to its distinctive nature, architectural features, and economic role, Kuntasi occupies a significant place in understanding the maritime and industrial framework of the Indus Civilization. Archaeologists generally identify Kuntasi as a relatively small but systematically organized **port settlement and manufacturing centre**, associated not only with local trade but also with interregional and long-distance maritime exchange.

Compared with larger urban centres of the Indus Civilization such as Dholavira, Lothal, and Kalibangan, Kuntasi was smaller in scale. Nevertheless, its economic and maritime importance appears to have been considerable. Archaeological evidence suggests that

the settlement functioned as a centre for **production, storage, and transportation of goods**, closely associated with maritime commerce.

The material remains recovered from Kuntasi indicate that the Indus Civilization was not solely composed of large urban centres; rather, smaller, specialized settlements also formed an integral component of its economic system. Kuntasi demonstrates that the Indus Civilization was founded upon a complex and multi-layered economic structure involving ports, industrial settlements, urban centres, and interconnected trade routes.

Geographical Location and Environmental Context

Kuntasi is situated on the **right bank of the Phulki River**, approximately **2 kilometres southeast of Kuntasi village** and nearly **30 kilometres from Morbi city** in Gujarat. The site presently lies around **five kilometres inland from the modern coastline**, although the coastal geography and sea levels

during antiquity were considerably different from those of today.

The geographical location of Kuntasi rendered it highly suitable for maritime activity. Archaeologists suggest that during antiquity the site was connected to a **creek or navigable water channel**, allowing boats to travel inland for trade and transportation. On this basis, scholars have proposed that Kuntasi functioned as a **jetty or cargo-handling centre**, facilitating the loading and unloading of goods.

This strategic position demonstrates that the commercial centres of the Indus Civilization were not exclusively dependent on major river systems; rather, coastal and semi-coastal environments also supported advanced trade infrastructures. Kuntasi’s location enabled it to function as an intermediary node between inland and maritime commercial routes.

Researchers have further suggested that Kuntasi may have been connected by overland trade routes to Rangpur and subsequently to Lothal, thereby

strengthening commercial exchange and transportation networks.

Discovery and Archaeological Excavations

The archaeological site of Kuntasi was first reported by **P. P. Pandya**, after which systematic and detailed investigations were carried out under the supervision of **Y. M. Chitalwala**. Excavations revealed that the site represented a carefully planned settlement associated with economic production and trade.

Archaeological investigations uncovered fortification walls, residential sectors, industrial complexes, storage facilities, and evidence of commercial activities, indicating that Kuntasi primarily served functions related to the production, storage, and transportation of goods.

Based on archaeological materials and stratigraphic evidence, scholars have divided the occupational history of Kuntasi into **two principal phases**:

1. Mature Harappan Phase

(c. 2200–1900 BCE)

This phase represents the period of Kuntasi’s greatest development and economic prosperity. During this period, urban planning, fortification systems, industrial activities, and trade administration appear to have flourished. Most significant archaeological remains—including weights, ornaments, industrial materials, and evidence of maritime infrastructure—belong to this phase.

2. Late Harappan Phase

(c. 1900–1700 BCE)

This period corresponds to the broader transformation and gradual decline of urban systems across the Indus Civilization. Archaeological evidence from Kuntasi suggests a decline in industrial and commercial activities during this period. Although occupation continued, urban organization and economic strength gradually weakened.

This chronological division is important for understanding broader historical changes within the Indus Civilization, as it demonstrates that smaller trade-oriented settlements were equally affected by the transformations experienced by larger urban centres.

Historical Significance of Kuntasi

The importance of Kuntasi extended beyond its role as a local settlement; it appears to have functioned as an active component of the wider economic network of the Indus Civilization. Archaeological discoveries—including **stone anchors**, microbeads, precious stones, and storage facilities—indicate that Kuntasi participated in both maritime and overland commerce.

Scholars suggest that the economic role of Kuntasi was primarily based on the following functions:

1. **Manufacturing and craft production**
2. **Storage and warehousing**

3. **Transportation and movement of goods**
4. **Maritime trade and exchange**

In this regard, Kuntasi may be interpreted as part of the broader **economic infrastructure of the Indus Civilization**, supporting the commercial needs of larger urban centres.

Furthermore, the discovery of substantial quantities of **lapis lazuli** at Kuntasi is particularly significant, since this valuable blue stone was among the luxury commodities traded extensively in the ancient world, especially with Mesopotamia. Such findings strengthen the argument for long-distance trade connections between the Indus Civilization and the civilizations of West Asia.

Transitional Conclusion

The evidence presented in Part 01 demonstrates that Kuntasi was a carefully planned, economically significant, and strategically located

maritime-industrial settlement of the Indus Valley Civilization. Its geographical position, occupational phases, and evidence of maritime interaction indicate that the Indus Civilization possessed a highly developed and interconnected economic system. Sites such as Kuntasi formed important nodes within this wider commercial network.

Archaeological evidence from Kuntasi demonstrates that the site was not merely an ordinary settlement but rather a systematically organized industrial and commercial centre whose planning reflected specific economic priorities. Although smaller in scale than the major cities of the Indus Valley Civilization, Kuntasi reveals a sophisticated degree of urban organization through its defensive structures, manufacturing zones, storage systems, and arrangements for the movement of goods. Excavations suggest that the settlement was deliberately designed to integrate commerce, craft production, storage, and port-related activities within a single administrative and spatial framework.

Urban Layout and Settlement Planning

Excavations indicate that Kuntasi consisted of **two principal components**:

1. **A fortified or walled settlement**
2. **Unfortified suburban areas**

The fortified central settlement covered approximately **two hectares**, while open suburban areas surrounded it, possibly inhabited by laborers, craft specialists, or communities associated with trade and production.

The internal organization of Kuntasi indicates that it was not an unplanned or organically developed village but rather a **planned settlement**. The arrangement of buildings, the presence of open spaces, and the spatial distribution of industrial facilities suggest that economic and commercial requirements were central considerations in its urban design.

In this respect, Kuntasi shares certain similarities with other carefully planned Indus settlements such as Dholavira and

Lothal, although important differences in scale and complexity remain evident.

The Double Fortification System

One of the most distinctive architectural features of Kuntasi is its **double fortification wall**, constructed from stone boulders and mud. Archaeological investigations indicate that the settlement was enclosed by **two parallel defensive walls**, separated by a passage approximately **20 metres wide**.

This fortification system may have served several purposes:

1. Defensive Protection

Since valuable commercial goods and manufactured products were likely stored within the settlement, the fortification system may have been designed to protect Kuntasi against raids, theft, or unauthorized access.

2. Administrative Control

The corridor between the walls may have functioned as a regulated passage, allowing authorities to monitor the movement of goods and people entering or leaving the settlement.

3. Environmental Protection

Given Kuntasi’s proximity to coastal and riverine environments, the fortifications may also have provided protection against flooding or seasonal environmental changes.

Excavations uncovered a **main gate on the eastern side** of the settlement, flanked by **guard chambers**, suggesting a carefully regulated entrance system. Such features indicate that access to the settlement was likely controlled, particularly because of its economic and commercial significance.

Additionally, a **tower located at the southwestern corner** of the settlement has been interpreted as a structure intended for surveillance, security, or administrative oversight.

Jetty and Port-Related Activities

Perhaps the most important characteristic of Kuntasi is its likely function as a **port settlement**. Excavations revealed a substantial **stone platform running along the western wall**, which many archaeologists identify as a **jetty or docking platform** used for loading and unloading cargo.

This structure may have facilitated interaction with boats travelling through nearby creek systems. If this interpretation is correct, Kuntasi represents one of the smaller yet highly organized maritime centres of the Indus Civilization.

Its maritime infrastructure bears comparison to that of Lothal, one of the best-known port settlements of the Indus Civilization. However, while Lothal possessed a large dockyard complex, Kuntasi appears to have functioned on a more limited scale. Despite this difference, Kuntasi likely played an important role in regional trade and transportation networks.

Industrial Complexes and Storage Facilities

Within the fortified settlement, archaeologists identified **specialized industrial structures**, demonstrating that Kuntasi was an important centre of production as well as trade.

Evidence includes:

- **Storage facilities resembling warehouses**
- Areas designated for manufacturing and craft activities
- Traces of bead-making and stone processing industries
- Facilities associated with the organization and transport of goods

These remains suggest that Kuntasi functioned not merely as a residential settlement but as an **active economic and industrial centre**, where raw materials were processed before being distributed to other regions.

Residential Architecture and Domestic Life

The residential structures at Kuntasi indicate a socially organized settlement characterized by deliberate architectural planning.

Excavations revealed a **centrally located large house** containing several rooms, including a **private kitchen**, suggesting the presence of socially or economically prominent households.

Other houses, concentrated mainly in the **northern and western sectors**, generally consisted of **large rectangular structures**.

Construction Techniques

The buildings at Kuntasi were constructed using:

- **Stone foundations**
- **Mud-brick walls**
- Bricks proportioned according to **Harappan architectural standards**

An important architectural distinction is that the mud bricks used at Kuntasi were comparatively **larger than those commonly found in other Harappan settlements**, potentially reflecting regional construction practices or specialized functional requirements.

Buildings were organized around a **large open central area**, which may have served social, administrative, or commercial purposes.

A Possible Communal Kitchen

In the **southwestern corner** of the settlement, archaeologists uncovered a large isolated room interpreted by some scholars as a **communal kitchen**, possibly intended to serve laborers or a substantial portion of the settlement's population.

If this interpretation is correct, it may suggest the existence of organized labor systems and coordinated economic activity, further emphasizing Kuntasi's industrial significance.

Absence of a Citadel

One of Kuntasi’s distinctive features is the apparent **absence of a citadel**, which was a prominent feature in several major Indus urban centres.

For example, settlements such as:

- Kalibangan
- Dholavira
- Banawali

contain clearly identifiable elevated or fortified sectors interpreted as citadels.

The absence of such a structure at Kuntasi suggests that the settlement was primarily designed as a **commercial and industrial centre**, rather than an administrative, ceremonial, or political hub.

Artifacts and Material Culture

Excavations at Kuntasi yielded a diverse range of material remains that

illuminate the settlement’s economic, social, and maritime character.

Major Artifacts Recovered

- **Painted pottery** decorated with designs
- **Cylindrical stone anchors**, indicating maritime activity
- A small pot containing a **copper hoard**
- **Copper bangles and finger rings**
- More than **one thousand steatite microbeads**
- **Cubical chert weights** used in trade
- Bone tools
- **Terracotta toy carts**
- Objects made from **agate** and **carnelian**

These materials collectively provide valuable insight into Kuntasi’s craft production, commercial activity, daily life, and long-distance trading connections.

Transitional Conclusion

Part 02 demonstrates that Kuntasi was a carefully organized, economically oriented settlement whose architecture reflected specialized commercial needs. Its double fortification system, jetty, industrial complexes, storage arrangements, and craft production facilities indicate that Kuntasi played an important role in the maritime and economic networks of the Indus Valley Civilization.

Introduction

Archaeological evidence from Kuntasi indicates that the settlement was not merely a local habitation site but an organized economic centre integrated into broader systems of production, exchange, and maritime communication. Although modest in size, Kuntasi appears to have played an important role within the economic structure of the Indus Valley Civilization (IVC), functioning as a regional hub for craft production, storage, and transportation of goods. Its strategic position and material remains suggest that it served as an intermediary between inland resource zones and coastal maritime networks.

The study of Kuntasi contributes significantly to understanding the complexity of the Harappan economic system by demonstrating that the prosperity of the Indus Civilization depended not only upon major urban centres but also upon smaller, specialized industrial and port settlements.

Maritime Trade and the Economic Role of Kuntasi

Kuntasi is widely interpreted as a **small port settlement** associated with maritime trade. Archaeological evidence—including a jetty-like stone platform, stone anchors, storage structures, and craft-related materials—strongly suggests involvement in seaborne commercial activity.

During the Mature Harappan period, the coastal regions of Gujarat played a crucial role in connecting inland production centres with maritime routes across the Arabian Sea. Kuntasi's geographical setting implies that goods may have been transported through navigable creeks using small boats,

which subsequently linked with larger regional maritime trade systems.

The economic functions of Kuntasi can be understood through the following categories:

1. Centre for Transportation and Redistribution

Kuntasi likely served as an intermediary point where raw materials and finished products from inland settlements were gathered, stored, and redistributed through maritime channels.

2. Manufacturing and Craft Production

The discovery of agate, carnelian, steatite beads, copper objects, and manufacturing debris suggests the presence of specialized craft industries. Such industries were characteristic of Harappan urban economies and played an essential role in long-distance trade.

3. Storage and Commercial Administration

Architectural remains interpreted as storage facilities indicate that goods were probably accumulated and organized before transportation to other settlements or ports.

These functions collectively demonstrate that Kuntasi formed part of the broader commercial infrastructure of the Indus Civilization.

Possible Trade Relations with Mesopotamia

One of the most significant aspects of Kuntasi is its potential participation in **long-distance international trade**, particularly with ancient Mesopotamia.

The discovery of substantial quantities of **lapis lazuli** at the site is especially noteworthy. Lapis lazuli, a highly valued blue semi-precious stone, was widely traded in the Bronze Age world and often associated with elite consumption.

Scholars generally agree that lapis lazuli originated in regions of present-day Afghanistan and was transported through extensive trade networks into Harappan settlements. From there, such

luxury materials may have been exported westward to Mesopotamia.

Ancient Mesopotamian textual records refer to a region called **“Meluhha,”** which many scholars identify with the Indus Valley Civilization. Within this context, smaller port settlements such as Kuntasi may have acted as logistical nodes in the movement of goods between Harappan cities and foreign markets.

In addition to lapis lazuli, items such as **carnelian beads**, agate ornaments, copper objects, and manufactured goods were likely part of these exchange systems.

Comparative Analysis: Kuntasi and Lothal

Kuntasi is frequently compared with Lothal because both settlements were associated with maritime trade and coastal economic activity. However, important distinctions exist between them.

Feature	Kuntasi	Lothal
Scale	Small	Large

Feature	Kuntasi	Lothal
Maritime Infrastructure	Jetty-like platform	Major dockyard
Economic Function	Regional industrial-port centre	Major maritime trade centre
Citadel	Absent	Limited administrative structures
Urban Complexity	Moderate	Highly developed

While Lothal contains clear evidence of an elaborate dockyard system, Kuntasi appears to have operated on a smaller but functionally significant scale. Rather than serving as a major international port, Kuntasi may have functioned as a **regional subsidiary centre**, facilitating the movement of goods toward larger commercial hubs.

This comparison highlights the diversity of urban functions within the Indus Civilization and demonstrates that Harappan maritime trade relied upon multiple interconnected settlements of varying sizes.

Overland Trade Routes and Regional Networks

Archaeologists have proposed that Kuntasi was connected to inland trade routes through Rangpur, eventually linking to Lothal and other major settlements.

This evidence suggests the existence of an integrated economic network consisting of:

- Maritime ports
- Industrial settlements
- Agricultural hinterlands
- Urban population centres

These interconnected systems formed the economic backbone of the Indus Civilization and enabled the movement of raw materials, luxury goods, and finished products over considerable distances.

Decline of Kuntasi

Around **1900 BCE**, major transformations began affecting the

urban centres of the Indus Civilization, and Kuntasi appears to have experienced similar processes of decline.

Several possible explanations have been proposed:

1. Changes in Coastal Geography

Alterations in shoreline patterns and creek systems may have reduced accessibility to maritime routes, diminishing Kuntasi’s importance as a port.

2. Weakening of Trade Networks

A decline in exchange between the Indus Civilization and foreign regions, including Mesopotamia, may have negatively affected economic activity.

3. Urban Transformation

The broader disintegration of Harappan urban systems likely influenced smaller settlements dependent upon large-scale economic networks.

4. Environmental Factors

Climate fluctuations, water scarcity, or environmental degradation may have contributed to demographic decline and reduced settlement activity.

Despite these transformations, evidence suggests that occupation at Kuntasi did not cease abruptly; rather, habitation continued into the **Late Harappan phase**, albeit on a diminished scale.

Conclusion

The archaeological study of Kuntasi reveals that the Indus Valley Civilization possessed a highly organized and multi-layered economic structure in which small port and industrial settlements played a crucial role.

The significance of Kuntasi may be summarized through the following characteristics:

1. **Planned urban organization**
2. **Double fortification system**
3. **Association with maritime trade**
4. **Role as a manufacturing and industrial centre**

5. **Possible commercial connections with Mesopotamia**
6. **Participation in interconnected overland and maritime trade networks**

Kuntasi demonstrates that the success of the Indus Civilization depended not only upon monumental cities but also upon smaller, specialized settlements that facilitated commerce, production, and communication. As such, Kuntasi offers important insights into the economic sophistication and regional diversity of the Harappan world.

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Lakhan-Jo-Daro

Introduction

Lakhan-Jo-Daro is one of the significant archaeological sites of the Indus Valley Civilization (IVC), providing valuable insights into the urban, industrial, and economic life of ancient Sindh. Situated on the northern outskirts of modern Sukkur in Upper Sindh, Pakistan, the site demonstrates evidence of a highly

developed urban settlement during the Bronze Age. Due to its size, urban layout, craftsmanship, metallurgy, and commercial networks, Lakhan-Jo-Daro occupies a distinctive position among the settlements of the Indus Civilization. Some scholars even suggest that, in certain respects, it may have been contemporary with or perhaps predating Mohenjo-daro.

Lakhan-Jo-Daro is important not only for understanding the urbanization of the Indus Valley Civilization but also for revealing the existence of organized riverine trade, resource procurement, craft specialization, and regional exchange networks in Upper Sindh. Archaeological discoveries at the site—including pottery, steatite seals, beads, metal artifacts, copper fragments, and unfinished anthropomorphic figurines—indicate that Lakhan-Jo-Daro was not merely a residential settlement but also a center of industrial and commercial activity.

Geographical Location and Environmental Context

Lakhan-Jo-Daro is located in the Sukkur District of Sindh, Pakistan, on the western bank of the Indus River, approximately 2.5 kilometers from the present river course. The site lies near the Rohri Hills, an area renowned in antiquity for its abundant chert resources, which were extensively used for tool production. This strategic location made Lakhan-Jo-Daro highly suitable for riverine trade and access to raw materials.

During the Bronze Age, the surrounding region was more environmentally favorable than it is today. Archaeological and paleoenvironmental studies suggest that Upper Sindh experienced relatively more humid climatic conditions during the third millennium BCE, supporting agricultural productivity, livestock herding, and urban settlement.

Topographically, Lakhan-Jo-Daro consists of multiple mounds scattered across the alluvial plains of the Indus River. Over centuries, these mounds accumulated beneath layers of alluvial deposits, preserving archaeological materials. The arrangement of these

mounds suggests a settlement that expanded through different occupational phases, with separate zones designated for residential, industrial, and possibly administrative activities.

Site Size and Urban Layout

Lakhan-Jo-Daro covers approximately 50 hectares, making it one of the major urban settlements of the Indus Valley Civilization in Upper Sindh. The sheer size of the site suggests that it was not a temporary or rural settlement, but rather a planned urban center with considerable socio-economic significance.

The site comprises several distinct mounds, including a central mound, a western mound, and an eastern mound. Evidence from excavations indicates that the western mound was heavily associated with craft production, while the central area contained traces of residential structures. The eastern portion also shows signs of habitation, although much of it has suffered damage due to modern urban expansion.

The urban organization of Lakhan-Jo-Daro indicates a deliberate separation between residential and industrial zones. This feature resembles the planned layouts observed at other major Indus sites, such as Mohenjo-daro and Harappa. Although excavations at Lakhan-Jo-Daro remain limited, available evidence strongly suggests the existence of a sophisticated urban planning system.

Discovery and Initial Surveys

Lakhan-Jo-Daro was first identified in 1985 by Qasid Mallah and his team from Shah Abdul Latif University, Khairpur, during archaeological surveys conducted in Upper Sindh. Initial surface investigations recovered pottery sherds, brick fragments, and other materials characteristic of the Harappan period, confirming the site's association with the Indus Valley Civilization.

Subsequent evaluations of the site's extent revealed that Lakhan-Jo-Daro had once been a large urban settlement. However, due to the rapid industrialization and urban development of Sukkur, systematic excavation was

delayed, leading to the destruction or burial of several important archaeological deposits beneath modern infrastructure.

From the 1990s onward, limited excavations were undertaken to investigate the site’s structure, material culture, and industrial activities. Later collaborative efforts involving Pakistani and Italian archaeologists further emphasized Lakhan-Jo-Daro’s significance, particularly regarding metallurgy and specialized craft production.

Archaeological Significance

The significance of Lakhan-Jo-Daro lies in its contribution to understanding the economic and industrial organization of the Indus Civilization. The discovery of seals, bead-manufacturing evidence, copper recycling remains, and metallurgical artifacts suggests that the settlement functioned as an important industrial center.

Particularly noteworthy is the evidence of steatite bead and seal production. Archaeologists uncovered industrial

waste materials associated with craftsmanship, including unfinished steatite blocks, kiln debris, and partially completed seals, demonstrating that specialized manufacturing activities took place on-site.

These industrial operations appear to have extended beyond local consumption, indicating that Lakhan-Jo-Daro may have served as a major node within the wider trade networks of the Indus Civilization. Finished goods likely circulated to other settlements, linking the site to regional systems of economic exchange.

Furthermore, Lakhan-Jo-Daro holds particular importance for understanding the emergence of urbanism in Sindh. Some researchers argue that the settlement may represent an early stage in the urban development process that later culminated in larger cities such as Mohenjo-daro, thereby offering critical insights into the origins of urban civilization in the Indus region.

Excavations and Archaeological Investigations

Systematic archaeological excavations at Lakhan-Jo-Daro began relatively late, primarily due to the rapid pace of urban and industrial expansion surrounding the site. Following its initial discovery, limited excavations were undertaken during the 1990s with the objective of understanding the site’s stratigraphy, settlement patterns, and material culture.

Between 1996 and 2000, the Department of Archaeology at Shah Abdul Latif University, Khairpur, conducted several exploratory excavations across major mounds of the site. Test trenches were opened in areas identified as D-10, D-7, D-33, and Mound C. These investigations uncovered important evidence relating to residential structures, pottery assemblages, metal artifacts, and traces of industrial activity.

In 1997, a collaborative archaeological initiative known as the Joint Italo-Pakistani Rohri Hills Project carried out a more detailed assessment of Lakhan-Jo-Daro. One of the principal objectives of this project was to examine the relationship between the settlement and

the resource-rich Rohri Hills, particularly regarding access to raw materials. During this phase, radiocarbon samples were collected, contributing to chronological assessments that linked the site to the Mature Harappan Period (ca. 2600–1900 BCE).

Further excavation campaigns were undertaken in 2006, 2009–2010, and during salvage operations in 2013 and 2017. These later interventions were largely motivated by the urgent need to preserve archaeological remains threatened by industrial construction and urban encroachment.

Architectural Features and Residential Organization

The architectural remains discovered at Lakhan-Jo-Daro provide valuable evidence regarding settlement organization and daily life during the Indus Valley Civilization. Excavations revealed compacted clay walls, hardened earthen floors, hearths, and ash-filled deposits, indicating domestic activities and habitation areas.

Unlike sites such as Mohenjo-daro, where baked bricks were extensively used, Lakhan-Jo-Daro primarily features structures made of compacted clay. This architectural variation may reflect differences in local environmental conditions, resource availability, or regional building traditions. Nevertheless, the settlement still exhibits characteristics associated with organized urban planning.

Archaeologists uncovered traces of small rooms, habitation units, and working spaces, suggesting a close integration between residential and industrial activities. Certain areas appear to have been used for domestic purposes, storage, and artisanal production, indicating a multifunctional urban environment.

Notably, no clear evidence of monumental public architecture or a citadel-like structure—common at some major Harappan centers—has yet been identified at Lakhan-Jo-Daro. However, given the limited scale of excavation, the absence of such features cannot yet be considered definitive.

Craft Production and Industrial Activity

One of the defining characteristics of Lakhan-Jo-Daro is its strong association with specialized craft production. Archaeological evidence indicates that the site served as an important center for the manufacture of steatite (soapstone) beads and seals.

Excavations yielded unfinished seal fragments, raw materials used in bead-making, stone debris, kiln waste, and other traces of artisanal production. These discoveries strongly suggest the presence of skilled craftspeople engaged in the large-scale production of ornaments, beads, and administrative seals.

The western mound of the settlement appears to have functioned as a major industrial zone. Archaeologists discovered evidence of workshops, including unfired steatite blocks, burnt residues, partially completed seals, and manufacturing debris associated with specialized production techniques.

These craft activities were likely not limited to local consumption. Instead, Lakhan-Jo-Daro appears to have been integrated into the broader commercial system of the Indus Civilization, supplying finished goods to other settlements and participating in long-distance trade networks.

Metallurgy and Copper Technology

Among the most remarkable discoveries at Lakhan-Jo-Daro is a copper scrap hoard dating to approximately 2000 BCE. This finding demonstrates the presence of advanced metallurgical knowledge and metalworking traditions at the site.

The hoard contained heavily corroded copper fragments, metal sheets, small tubes, and unfinished tools. Archaeologists believe these materials may have been collected for recycling, suggesting that inhabitants practiced the reuse and remanufacturing of metal objects.

Particularly significant is the discovery of an unfinished copper anthropomorphic figurine, produced

using the lost-wax casting technique. The figurine portrays a human figure in what appears to be a dynamic posture, possibly representing a spear-throwing action. This artifact illustrates not only the technological sophistication of Harappan metalworkers but also their artistic and symbolic capabilities.

The evidence of copper processing and recycling suggests that Lakhan-Jo-Daro played an important role in regional metallurgical production, comparable in some respects to specialized craft centers such as Chanhu-Daro.

Pottery and Material Culture

Large quantities of pottery recovered from Lakhan-Jo-Daro have proven essential for reconstructing the cultural sequence of the settlement. Ceramic assemblages from the site belong to both the Early Harappan and Mature Harappan phases.

Lower stratigraphic layers yielded red-slipped pottery decorated with black-painted motifs, closely resembling ceramics associated with the Kot Diji cultural tradition. In contrast, upper

levels produced standardized Mature Harappan vessels, including bowls, jars, storage containers, and painted ceramics.

Several pottery pieces feature incised or painted decorative designs, reflecting artistic traditions and cultural identity. Miniature vessels and symbolic ceramic objects may have served ritualistic, ceremonial, or specialized domestic purposes.

Beyond pottery, the site yielded terracotta objects, shell ornaments, beads, and seal impressions, all of which reflect the cultural sophistication and economic vitality of the settlement.

Lakhan-Jo-Daro and Regional Trade Networks

Archaeological evidence strongly indicates that Lakhan-Jo-Daro maintained extensive trade relations with distant regions. Several materials discovered at the site—such as steatite, marine shell, and specific metal resources—were not locally available, suggesting importation through long-distance exchange systems.

Trade connections likely extended across regions including Balochistan, Rajasthan, Punjab, and coastal settlements of the Indus Civilization. Through these networks, Lakhan-Jo-Daro appears to have functioned as a significant economic center, facilitating the movement of raw materials and finished products across the wider Indus world.

The Role of Lakhan-Jo-Daro in the Indus Valley Civilization

Lakhan-Jo-Daro was one of the significant urban settlements of the Indus Valley Civilization, playing an important role in the economic, industrial, and commercial systems of Upper Sindh. Its strategic geographical location—near the Indus River and in proximity to the resource-rich Rohri Hills—enabled access to essential raw materials, trade routes, and craft production centers.

Archaeological evidence suggests that Lakhan-Jo-Daro was not merely a residential settlement but a well-organized economic hub where industrial production, metallurgy, and

artisanal craftsmanship operated under a structured social framework. The production of seals, beads, and copper objects indicates the presence of specialized craftspeople engaged in skilled manufacturing activities.

The significance of Lakhan-Jo-Daro also lies in its potential contribution to understanding the early phases of urbanization in Sindh. Some scholars propose that the settlement may represent an earlier stage of urban development that eventually culminated in large urban centers such as Mohenjo-daro. In this sense, Lakhan-Jo-Daro may offer important evidence regarding the formative stages of Indus urbanism.

Social and Economic Organization

The archaeological remains of Lakhan-Jo-Daro suggest the existence of a socially organized community composed of various occupational groups. Craftspeople, metalworkers, seal-makers, and bead manufacturers likely played central roles in the settlement’s economy. The apparent separation between residential and industrial zones indicates deliberate urban planning

designed to accommodate both domestic and economic functions.

Like other major Harappan cities, Lakhan-Jo-Daro exhibits signs of standardization in production. Similarities in pottery forms, seal designs, and industrial artifacts suggest the existence of shared cultural norms and possibly centralized systems of administration or regulation.

The importation of raw materials and exportation of manufactured goods further indicate that Lakhan-Jo-Daro was integrated into a broad regional economy. The use of marine shells, steatite, and imported metal resources demonstrates sustained commercial interactions with distant regions.

Religious and Cultural Dimensions

Although no large-scale religious structures or temples have yet been discovered at Lakhan-Jo-Daro, several artifacts suggest the presence of symbolic, ritualistic, or religious practices. Seals, anthropomorphic figurines, and decorative objects may have held spiritual, ceremonial, or

ideological significance within the community.

The unfinished copper anthropomorphic figurine discovered at the site is particularly noteworthy. Depicting a human figure in a dynamic posture, the object may represent a symbolic, ritualistic, or martial figure. Such discoveries provide important insights into Harappan aesthetics, symbolism, and artistic expression.

Similarly, inscribed seals and symbolic markings suggest participation in the broader tradition of the Indus script, which may have served administrative, commercial, or communicative functions.

Decline and Transformation

The precise reasons for the decline of Lakhan-Jo-Daro remain uncertain. However, as with many other settlements of the Indus Valley Civilization, archaeologists believe that environmental, hydrological, and socio-economic factors may have contributed to its gradual decline.

During the late third millennium BCE, increasing aridity and changes in river systems affected many Indus settlements. If the course of the Indus River shifted away from Lakhan-Jo-Daro, reduced access to water resources may have disrupted agriculture, trade, and urban sustainability.

In addition, transformations in economic systems and regional settlement patterns may have encouraged population movement, resulting in the gradual abandonment of the city. Rather than a sudden collapse, the decline of Lakhan-Jo-Daro was likely a slow process of urban transformation.

Preservation Challenges and Modern Threats

Today, Lakhan-Jo-Daro faces serious threats from industrialization and urban expansion in the Sukkur region. Significant portions of the site have already been damaged or destroyed due to factories, roads, residential development, and unauthorized land occupation.

Illegal excavations and the trafficking of antiquities also pose major risks to the preservation of the site. Archaeologists warn that without immediate intervention, valuable archaeological layers may be permanently lost before they can be scientifically documented.

Although governmental and archaeological institutions in Sindh have attempted to classify Lakhan-Jo-Daro as a protected heritage site, substantial efforts are still needed in terms of legal protection, boundary demarcation, conservation planning, and systematic excavation. Several international scholars have also advocated for expanded scientific research at the site to better understand its historical significance.

Conclusion

Lakhan-Jo-Daro represents one of the most important yet relatively understudied urban settlements of the Indus Valley Civilization in Upper Sindh. Archaeological evidence demonstrates that the settlement functioned as an organized urban center characterized by residential planning, specialized craft

production, metallurgy, and extensive trade connections.

The site is particularly significant because it offers valuable insights into the origins and development of urbanism in Sindh and may illuminate processes that preceded the emergence of larger cities such as Mohenjo-daro. However, modern industrial encroachment and limited excavation have left many questions unanswered regarding the settlement’s complete historical trajectory.

Future preservation and research efforts are essential to safeguard Lakhan-Jo-Daro as an important component of the cultural heritage of Sindh and the broader Indus Valley Civilization. Comprehensive excavations and conservation initiatives could reveal new dimensions of Bronze Age society and contribute significantly to archaeological scholarship.

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Lakhiyo (Pir Lako)

Introduction

The archaeological sites of Dadu District hold considerable importance for understanding the prehistoric cultural heritage of Sindh. Among these sites, **Lakhiyo (Pir Lako)** is a significant ancient settlement that provides valuable insight into the social, cultural, and religious life of prehistoric communities through its material remains. The artifacts discovered at the site indicate the presence of an organized human settlement where domestic objects, religious figurines, and toys were part of everyday life.

Geographical Location

The archaeological remains of Lakhiyo (Pir Lako) are located approximately 9 kilometers from the village of Shah Hassan in Dadu District. The site is considered one of the ancient settlements situated near the transitional zone between mountainous and plain regions, an environment favorable for early human habitation and subsistence activities.

Excavation and Discovery of Artifacts

The archaeologist Nani Gopal Majumdar conducted excavations at this site, where two trenches extending approximately two kilometers were excavated. The findings suggest that the settlement represented an important rural community in which pottery-making, animal husbandry, and religious activities were practiced.

Pottery and Artistic Traditions

Lakhiyo yielded pottery painted in black designs over a red slip, a characteristic feature of ceramic traditions in prehistoric Sindh. Such decorative pottery reflects not only artistic aesthetics but also the cultural identity and regional craftsmanship of the period.

In addition, Majumdar recovered plain, undecorated pottery vessels from the site, indicating that different categories of ceramics were produced for everyday domestic use as well as for specialized purposes.

Mother Goddess Figurines, Animal Models, and Other Artifacts

Terracotta **Mother Goddess figurines** were discovered at Lakhiyo, which may have been associated with fertility, agricultural prosperity, or religious beliefs. Similar figurines had previously been recovered from the archaeological sites of **Kili** and **Mihi**, suggesting the existence of shared cultural or religious traditions among prehistoric communities in Sindh.

Besides these figurines, terracotta bull models, clay bangles, beads, toys, flint blades, and steatite beads were also unearthed. These artifacts provide valuable information about daily life, ornamentation, trade practices, and the technical craftsmanship of the inhabitants.

Cultural Significance

The archaeological evidence from Lakhiyo (Pir Lako) suggests that the settlement belonged to an advanced rural cultural tradition, where inhabitants likely depended on agriculture, pastoralism, and local

industries. Religious figurines and ornamental objects offer important clues about the spiritual and social structure of the community. Such discoveries contribute significantly to understanding the cultural continuity and regional interactions of prehistoric Sindh.

Conclusion

The archaeological remains of Lakhiyo (Pir Lako) constitute important evidence of prehistoric human settlement in Dadu District. The red-slipped pottery with black decoration, Mother Goddess figurines, bull models, bangles, beads, and other craft objects collectively highlight the cultural and religious significance of the site. Further scientific excavation and research may provide a clearer understanding of the settlement’s chronology and broader historical importance.

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Lakmir Ji Mari

Abstract

Lakmir Ji Mari is an important archaeological site situated near Naiṅg in Sehwan Taluka, Dadu District, Sindh, Pakistan. The site is associated with the urban phase of the Indus Valley

Civilization and preserves significant material remains indicative of settlement organization, architectural development, and water management practices. Although comparatively less explored than major Indus urban centers such as Mohenjo-daro and Harappa, Lakmir Ji Mari provides valuable evidence regarding regional Harappan settlement patterns in central Sindh. Archaeological remains, including structural foundations, painted pottery, and flint tools, suggest that the settlement formed part of the broader cultural and economic network of the Indus Civilization.

Introduction

Lakmir Ji Mari constitutes one of the significant archaeological settlements of Sindh associated with the Indus Valley Civilization (IVC). Located near Naiṅg in Sehwan Taluka of Dadu District, the site has yielded archaeological evidence that reflects characteristics of the mature urban traditions of the Harappan Civilization. Despite receiving relatively limited scholarly attention in comparison with prominent urban centers such as Mohenjo-daro, Harappa, and Kot Diji, the

material remains recovered from Lakmir Ji Mari contribute substantially to our understanding of regional settlement dynamics, architectural traditions, and environmental adaptation in ancient Sindh.

The location of the settlement appears to have been strategically selected in relation to the availability of water resources and topographical advantages. Like many settlements of the Indus Civilization, Lakmir Ji Mari was established in proximity to a reliable water source, thereby facilitating habitation, subsistence activities, and possibly regional exchange networks.

Geographical Setting and Structural Features

Lakmir Ji Mari is situated on an elevated mound approximately sixty feet above the surrounding plains of Pat. The elevated position of the site suggests a deliberate settlement strategy intended to reduce vulnerability to seasonal flooding and environmental fluctuations. Surface surveys have revealed traces of substantial structural foundations, indicating the existence of well-planned

architectural activity within the settlement.

Scattered heaps of stones surrounding the mound further imply the utilization of locally available materials in construction practices. Such architectural adaptation corresponds with patterns observed at several regional settlements of the Indus Civilization, where building materials varied according to environmental availability and local geography.

At the base of the mound, archaeological remains interpreted as guard quarters, servants’ chambers, and residential structures have been identified in close proximity to one another. These features collectively indicate an organized settlement layout and suggest the existence of administrative or socially differentiated spatial arrangements. Consequently, Lakmir Ji Mari appears to have functioned not merely as a rural habitation but potentially as an organized settlement possessing administrative or strategic significance.

Material Culture and Archaeological Evidence

Artifacts recovered from Lakmir Ji Mari provide crucial insights into the cultural affiliation of the site with the Harappan tradition. Among the most significant finds are red pottery vessels decorated with black painted motifs, a ceramic style commonly associated with the Mature Harappan cultural horizon. Such pottery likely served domestic functions, although ceremonial or symbolic uses cannot be ruled out.

Additionally, flint tools recovered from the site indicate the continuation of advanced lithic technology among the inhabitants. Flint implements were widely employed throughout the Indus Civilization for agricultural, domestic, and craft-related activities. Their presence at Lakmir Ji Mari reinforces the interpretation of the settlement as an integrated component of the broader Harappan cultural sphere.

Water Management and Environmental Adaptation

One of the most notable characteristics of Lakmir Ji Mari is its proximity to a perennial spring, emphasizing the central importance of water accessibility in settlement planning. Archaeological evidence indicates that protective embankments or barriers were constructed around the spring to preserve and regulate the water supply.

Water management constituted a fundamental feature of Indus urbanism, reflecting sophisticated environmental awareness and infrastructural planning. The deliberate placement of Lakmir Ji Mari near a dependable water source demonstrates a strategic adaptation to ecological conditions and highlights the settlement’s sustainability mechanisms. The presence of protective embankments further suggests that the inhabitants possessed an advanced understanding of water conservation and environmental management.

Historical Significance

Lakmir Ji Mari may be interpreted as an important regional expression of the urban traditions of the Indus Civilization in central Sindh. The site provides

evidence that Harappan cultural influences were not restricted to major metropolitan centers but extended into smaller and medium-sized settlements distributed across the region.

Future systematic excavations and scientific investigations at Lakmir Ji Mari may significantly contribute to understanding regional settlement hierarchies, socio-economic organization, and patterns of cultural interaction during the Indus period. The site therefore possesses considerable archaeological value for reconstructing the historical geography of Harappan Sindh.

Conclusion

Lakmir Ji Mari represents an important archaeological settlement associated with the urban phase of the Indus Valley Civilization. Its elevated geographical setting, structural remains, painted ceramics, flint tools, and evidence of organized water management collectively underscore its significance in the study of ancient Sindh. Although comparatively understudied, the site offers substantial potential for future

archaeological research aimed at understanding regional manifestations of Harappan civilization and settlement organization.

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Lemon Junejo

Abstract

Lemon Junejo is an important prehistoric archaeological site located in northern Sindh, approximately forty miles west of Shikarpur, Pakistan. The site represents the remains of an ancient settlement associated with the urban phase of the Indus Valley Civilization (IVC). Archaeological investigations indicate cultural similarities with the major Harappan centers of Mohenjo-daro and Harappa, particularly in relation to pottery and tool assemblages. The identification and confirmation of the site were undertaken by the prominent archaeologist N. G. Majumdar, whose surveys in Sindh significantly contributed to the documentation of prehistoric settlements in the region. Owing to its material remains and geographical position, Lemon Junejo constitutes an important archaeological locality for understanding the regional expansion of the Harappan urban tradition in northern Sindh.

Introduction

Lemon Junejo is one of the lesser-known but archaeologically significant prehistoric settlements located in northern Sindh, approximately forty

miles west of Shikarpur. The site belongs to the urban cultural horizon of the Indus Valley Civilization and represents an abandoned settlement reflecting characteristics of Harappan urbanism.

Although the site has not received the same degree of archaeological attention as major urban centers such as Mohenjo-daro and Harappa, the available evidence suggests that Lemon Junejo formed part of the wider network of settlements associated with the Indus Civilization. Its archaeological assemblage demonstrates continuity with broader Harappan material culture and contributes to understanding regional settlement distribution in Upper Sindh.

Geographical Location and Settlement Context

Lemon Junejo is situated in northern Sindh at a considerable distance west of Shikarpur, within a region historically linked to ancient settlement activity. Its geographical location suggests that it may have occupied an important position within local communication and

subsistence networks during the prehistoric period.

Like many settlements of the Indus Civilization, the location of Lemon Junejo appears to have been strategically selected to facilitate habitation and interaction with surrounding regions. The presence of archaeological remains indicates that the settlement was once inhabited by communities participating in the cultural and economic systems characteristic of Harappan society.

Archaeological Discovery and Identification

The archaeological significance of Lemon Junejo was first identified and confirmed by the distinguished archaeologist N. G. Majumdar during his surveys of prehistoric sites in Sindh. Majumdar’s explorations played a foundational role in documenting numerous archaeological localities associated with the Indus Civilization and in broadening scholarly understanding of settlement distribution beyond major urban centers.

The identification of Lemon Junejo established its importance as a site associated with the urban tradition of the Harappan Civilization and highlighted its relevance for future archaeological inquiry.

Material Culture and Harappan Affiliation

Archaeological materials recovered from Lemon Junejo include pottery and tools comparable to those discovered at Mohenjo-daro and Harappa. Such similarities strongly indicate the settlement’s affiliation with the Mature Harappan cultural sphere.

The ceramic assemblage reflects technological and stylistic traditions characteristic of Indus urban culture, while the recovered tools suggest participation in craft production, domestic activity, or agricultural practices. The presence of artifacts resembling those of major Harappan centers further implies cultural integration and interaction within the wider Indus network.

These findings suggest that Lemon Junejo was not an isolated settlement but rather part of a broader system of interconnected urban and semi-urban communities that collectively contributed to the functioning of the Indus Civilization.

Historical and Archaeological Significance

Lemon Junejo is archaeologically important because it provides evidence of Harappan settlement expansion into northern Sindh beyond the principal metropolitan centers. The site contributes to understanding how smaller settlements functioned within the broader political, economic, and cultural landscape of the Indus Civilization.

Furthermore, the discovery of Harappan-style artifacts at the site reinforces the argument that urban cultural influences extended across a wide geographical area and were adapted within regional contexts. Future excavation and systematic archaeological investigation at Lemon Junejo may reveal additional information regarding settlement

hierarchy, economic activity, and cultural continuity.

Conclusion

Lemon Junejo represents an important archaeological settlement associated with the urban phase of the Indus Valley Civilization in northern Sindh. Identified by N. G. Majumdar, the site has yielded pottery and tools closely resembling those found at Mohenjo-daro and Harappa, thereby confirming its Harappan cultural affiliation. Although relatively understudied, Lemon Junejo holds substantial potential for understanding regional settlement systems and the diffusion of Harappan urban traditions across Sindh.

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Lilan Ji Mari

Introduction

Among the ancient archaeological sites of Sindh, several locations hold immense importance for understanding the history, civilization, and antiquity of human settlement in the region. **Lilan Ji Mari** is one such significant archaeological site, associated with both the rural cultural phase and the period of urban civilization. This site not only provides valuable information about the development of the Indus Civilization but also demonstrates the close relationship between human settlement and the availability of natural resources, particularly water.

Geographical Location

The archaeological remains of **Lilan Ji Mari** are situated on the outer range of the **Kirthar Mountains**, along the **Khenji Nai**, between the **Mola** and **Phusi passes**. Geographically, the region has historically been rich in mountainous terrain, seasonal watercourses, and natural grazing lands, making it favorable for ancient human habitation.

The selection of this site suggests that ancient inhabitants established their settlement in an area where access to natural water resources was readily available. Archaeological observations indicate that the settlement of Lilan Ji Mari was founded near a spring, which likely served as a primary source of water for drinking, agriculture, livestock, and other daily necessities.

Historical and Cultural Significance

The significance of Lilan Ji Mari lies in its association with two distinct cultural phases: the rural cultural period, characterized by small-scale settlements, and the urban civilization phase, marked by social organization, trade, and advancements in craftsmanship.

It is possible that this site represented one of the regional settlements influenced by the Indus Civilization, where inhabitants developed a localized economic system based on the available natural resources. Due to its proximity to the Kirthar region, the livelihood of the people may have relied on hunting, pastoralism, limited agriculture, and

possibly mountain-based trade networks.

Archaeological Importance

Sites such as Lilan Ji Mari are of fundamental importance in understanding the ancient history of Sindh, as they help clarify the relationship between the urban centers of the Indus Civilization and surrounding rural settlements. Such archaeological evidence suggests that urban and rural cultures in ancient Sindh were interconnected, with settlement patterns shaped by environmental resources.

Furthermore, the presence of such sites in mountainous areas demonstrates that the influence of the Indus Civilization was not limited to major urban centers alone but extended into hilly and semi-arid regions as well.

Conclusion

Lilan Ji Mari is an important archaeological site in Sindh that provides evidence for the continuity of human settlement from the rural

cultural phase to the period of urban civilization. Its location on the outer range of the Kirthar Mountains, near the Khenji Nai and a natural spring, indicates that ancient communities strategically settled in areas rich in natural resources. Further archaeological investigation of the site may contribute significantly to a deeper understanding of the social, economic, and cultural systems of ancient Sindh.

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Lohum Jo Daro

Introduction

Among the archaeological sites of Sindh, several locations hold considerable importance for understanding the evolution, social organization, and cultural continuity of the Indus Civilization. **Lohum Jo Daro** is one such significant site, associated not only with the urban phase of the Indus Civilization but also with the subsequent cultural

phase known as the **Jhukar Period**. Due to its antiquity, archaeological material, and excavation findings, the site occupies an important place in the archaeology of Sindh.

Geographical Location

Lohum Jo Daro is located in **Dadu District**, approximately **35 meters north of Pyaro Goth Station**. The mound stands on an ancient river channel, suggesting that the availability of water made the location suitable for human settlement in ancient times. Like many archaeological sites in Sindh, Lohum Jo Daro appears to have been closely associated with river systems, which played a vital role in agriculture, transportation, and trade.

Archaeological Excavation and Cultural Phases

The archaeologist **N. G. Majumdar** conducted excavations at this site and recovered important remains indicating that Lohum Jo Daro belonged to two distinct cultural phases. The lower occupational layer yielded remains associated with the **urban civilization**

of Mohenjo-daro, while the upper layer contained material related to the **Jhukar Period**.

This evidence is significant for understanding the cultural continuity following the decline of the Indus Civilization, as it demonstrates that human occupation at the site continued after the collapse of urban centers, although with evolving cultural traditions and social structures.

Pottery and Artistic Traditions

The pottery discovered at Lohum Jo Daro is particularly noteworthy for its artistic quality and cultural significance. Pottery recovered from the lower layer was coated with a **light red slip**, over which **black painted decorations** had been applied. These decorative motifs included **geometric designs, flying birds, plants, peepal trees, and comb-like branches**.

Such artistic motifs reflect not only the aesthetic sensibilities of the period but may also have held symbolic, religious, or social meanings. In particular, representations of the peepal tree may

indicate religious or cultural significance within the Indus Civilization.

Artifacts and Social Life

Excavations from both occupational layers yielded **terracotta bull figurines, pottery bangles, and toys**, which provide valuable insight into pastoral life, social customs, and children’s recreation during the period.

In addition, Majumdar recovered **agate and steatite beads and ornaments, weighing stones, a copper knife, spearheads, stone-bladed tools, and seals resembling those of Mohenjo-daro**. These finds indicate the development of trade, craftsmanship, metallurgy, and administrative practices. In particular, the weighing stones and seals suggest that Lohum Jo Daro may have been integrated into broader economic and commercial networks.

Historical Significance

Lohum Jo Daro is an important archaeological site for understanding the cultural transition and continuity

between the Indus Civilization and the later Jhukar Period. The site supports the argument that human settlement did not entirely disappear after the decline of the Indus urban centers but instead continued under changing cultural circumstances.

The archaeological evidence from the site contributes significantly to the study of social, economic, and artistic development in ancient Sindh and provides important clues regarding the later phases of the Indus Civilization.

Conclusion

Lohum Jo Daro is an important archaeological site in Dadu District that provides substantial evidence for the continuity between the urban civilization of Mohenjo-daro and the Jhukar cultural phase. The decorated pottery, animal figurines, seals, tools, and ornamental beads recovered from the site illuminate various aspects of social, economic, and artistic life during the period. Consequently, the site remains highly valuable for understanding cultural interaction, transformation, and the

continuity of human settlement in ancient Sindh.

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Lohri

Introduction

The prehistoric archaeological sites of Dadu District are of great importance for understanding the cultural evolution of ancient Sindh. Among these, **Lohri** is a significant site located near Manchar Lake, providing important evidence of long-term human occupation, environmental adaptation, and cultural development. The excavations suggest that Lohri was a continuously inhabited settlement, spanning from early rural cultural phases to the final stages of

urban civilization in the Indus Valley region.

Geographical Location

The ancient site of Lohri is situated in Dadu District near Manchar Lake. The mound rises approximately one meter above the surrounding plain, likely as a response to seasonal flooding and environmental conditions. The proximity to Manchar Lake would have provided essential resources such as water, fish, fertile land, and grazing areas, supporting sustained human settlement.

Excavation and Discovery

The archaeologist Nani Gopal Majumdar conducted excavations at Lohri, reaching approximately two meters below the surface. However, the excavation had to be discontinued due to the emergence of water. Despite this limitation, the recovered material provides significant insight into the cultural sequence of the site.

Cultural Phases and Occupational Sequence

The pottery evidence from Lohri indicates three distinct cultural phases:

1. **Amri Phase** – representing an early rural cultural stage.
2. **Amri–Harappan Transitional Phase** – marking the transition from rural settlements to urban civilization.
3. **Late Harappan Phase** – representing the final stage of the Indus Valley Civilization.

This sequence suggests that Lohri remained continuously occupied over a long period and witnessed major cultural and social transformations.

Architectural Remains

At Lohri, traces of rectangular and square rooms were identified, indicating planned architectural layouts. Large stones were used in the foundations of several structures, suggesting strong and durable construction techniques.

In one stratigraphic layer, a well-preserved house was uncovered, consisting of four rooms, two chambers, and a veranda. This architectural

complexity reflects organized domestic life and structured social arrangements.

Pottery and Material Culture

The site yielded five engraved pottery jars, two animal figurines, and copper ornaments. These artifacts reflect aspects of daily life, ritual practices, and ornamental traditions.

The pottery is generally buff or light red in color, with thin bases indicating refined ceramic craftsmanship. Decorative painting was executed using red, brown, and chocolate colors, reflecting the aesthetic traditions of the period.

Cultural Significance

Lohri represents an important archaeological site that demonstrates cultural continuity from early rural traditions to the later stages of the Indus Valley Civilization. The architectural remains, pottery assemblages, animal figurines, and metal ornaments collectively provide valuable insight into the social, economic, and cultural organization of the ancient inhabitants.

Conclusion

The archaeological evidence from Lohri highlights its significance as a long-term settlement in prehistoric Sindh. The presence of multi-period pottery, planned architecture, and diverse artifacts indicates that the site functioned as an important human habitation from rural cultural phases through the Late Harappan period. Further excavation could yield more comprehensive insights into its chronology and historical importance.

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Lal Chhato

Introduction

Lal Chhato is an important archaeological site located in the vicinity of Lake Manchar in Dadu District, Sindh, Pakistan. Situated approximately one mile from Tarhani, the site derives its name from the local saint Pir Lal Chhato. Archaeological evidence suggests that Lal Chhato belongs to the Late Urban Phase of the Indus Civilization. Consequently, the site is significant for understanding the ancient history of Sindh, the cultural evolution of the region, and the processes associated with the decline of the Indus urban tradition.

Geographical Setting

Lal Chhato is located in the northwestern region surrounding Lake Manchar, an area that has historically provided favorable conditions for human settlement. Lake Manchar has served not only as an important water resource but also as a center of agricultural and economic activity. As a result, numerous settlements developed around the lake during different historical periods. Lal Chhato emerged within this

environmentally advantageous landscape.

Historical and Cultural Significance

Based on the archaeological remains recovered from the site, scholars believe that Lal Chhato belongs to the Late Urban Phase of the Indus Civilization, generally dated to the period after approximately 1900 BCE. During this era, major urban centers such as Mohenjo-daro and Harappa began to decline in importance, and populations gradually shifted toward smaller rural settlements.

Sites such as Lal Chhato provide valuable evidence of this transitional period. While certain traditions of the urban Indus Civilization continued to survive, significant transformations occurred in social and economic organization. Pottery and other cultural materials found at the site indicate that its inhabitants maintained strong connections with the cultural traditions of the Indus Civilization.

Archaeological Characteristics

Although extensive excavations have not yet been conducted at Lal Chhato, surface remains demonstrate its antiquity and archaeological importance. Pottery fragments, brick debris, and other cultural materials suggest the existence of a permanent settlement at the site. These remains have been associated with the material culture of the Late Urban Phase of the Indus Civilization.

Conclusion

Lal Chhato is an important archaeological site situated near Lake Manchar in Dadu District, representing the Late Urban Phase of the Indus Civilization. Despite the limited archaeological investigations carried out so far, the available evidence highlights its historical and cultural significance. Future systematic excavations and research may provide further insights into the site's role in the decline of the Indus urban system and the subsequent cultural transformations that occurred in the region.

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Loteshwar

Loteshwar is an important prehistoric archaeological site for understanding the early development of human civilization in the northwestern region of the Indian subcontinent. Located in the Patan district of Gujarat, India, this site provides substantial evidence regarding the transformation of human societies from hunter-gatherer communities to agro-pastoral settlements. Archaeological investigations indicate that Loteshwar witnessed intermittent

human occupation from the eighth millennium BCE to the third millennium BCE, making it one of the most significant prehistoric sites in western India.

Locally known as *Khari-no-Timbo*, Loteshwar is especially remarkable because it preserves a continuous cultural sequence encompassing both the Mesolithic and Chalcolithic periods. Such continuity offers valuable insights into the long-term adaptation of human populations to environmental and climatic changes in the semi-arid landscapes of North Gujarat. The archaeological remains reveal that human communities inhabited the site for thousands of years, gradually adapting to shifting ecological conditions and changing economic practices.

Geographical Location and Environmental Background

Loteshwar is situated in the Sami Taluka of Patan district in Gujarat, India, approximately 500 meters from the Khari River. The site occupies the summit of a stabilized sand dune near

the riverbank and lies on the southwestern margins of the Thar Desert, a region characterized by arid and semi-arid climatic conditions.

The surrounding environment consists primarily of sandy dunes, dry plains, and seasonal river systems. The Khari River eventually joins the Rupen River, which drains into the Little Rann of Kutch, an extensive saline marshland. This hydrological system likely played a vital role in sustaining prehistoric human communities by providing seasonal water sources necessary for survival.

Paleoenvironmental studies suggest that climatic conditions during prehistoric times were different from those prevailing today. Seasonal monsoons may have been more reliable, resulting in periodic water availability and more active river systems. Such ecological conditions would have supported hunting, gathering, pastoralism, and eventually small-scale agriculture, making Loteshwar an attractive location for intermittent human occupation.

Historical and Cultural Significance

The significance of Loteshwar lies primarily in its long cultural continuity, spanning more than five millennia of intermittent occupation. The site serves as an important reference point for understanding social, economic, and technological transformations in northwestern South Asia before the emergence of urban civilizations.

During the Mesolithic period (approximately 7168–4703 BCE), the inhabitants of Loteshwar practiced a hunter-gatherer economy. Their subsistence depended heavily on hunting wild animals such as blackbuck, gazelle, and wild cattle. The discovery of sophisticated microlithic tools indicates advanced technological capabilities for hunting, cutting, hide processing, and plant preparation.

By the Chalcolithic period (approximately 3700–2200 BCE), significant economic and social transformations had occurred. Archaeological evidence suggests the emergence of pastoralism, limited agricultural activities, pottery production, metal use, and ornament manufacturing. These developments

reflect a gradual transition from complete dependence on wild resources toward more organized systems of food production and animal husbandry.

From an academic perspective, Loteshwar plays a crucial role in understanding the pre-urban developments that eventually contributed to the rise of the Indus Valley Civilization. Unlike major urban centers such as Mohenjo-daro and Harappa, Loteshwar represents a smaller regional settlement that reflects early experiments in social and economic organization before urbanization.

Archaeological Investigations and Excavation History

The first systematic excavations at Loteshwar were conducted during 1990–1991 by the Department of Archaeology and Ancient History at The Maharaja Sayajirao University of Baroda. These early excavations revealed microlithic tools, faunal remains, and evidence of prehistoric occupation, establishing the archaeological importance of the site.

In 2009, Loteshwar was re-excavated as part of the North Gujarat Archaeological Project (NoGAP), a collaborative initiative between The Maharaja Sayajirao University of Baroda and Spain’s Institució Milà i Fontanals. This phase of research employed advanced scientific methodologies, including radiocarbon dating, phytolith analysis, starch grain analysis, and zooarchaeological studies.

Archaeologists identified four major cultural layers at the site, divided into two principal occupational phases: the Mesolithic and the Chalcolithic. The findings revealed that occupation at Loteshwar was not continuous but rather seasonal or intermittent, suggesting that prehistoric populations moved according to ecological and climatic circumstances.

The recovery of more than 5,000 lithic artifacts, pottery fragments, terracotta objects, copper tools, ornaments, and faunal remains has established Loteshwar as one of the most significant archaeological sites for reconstructing prehistoric life in North Gujarat.

One of the most significant aspects of Loteshwar is its clear stratigraphic sequence, which provides valuable evidence for understanding the transformation of human societies over long periods of time. Archaeological excavations demonstrate that the site is primarily associated with two major cultural phases—the Mesolithic and the Chalcolithic—separated by an occupational gap of approximately one thousand years. This interruption may reflect environmental changes, shifting settlement patterns, or temporary abandonment of the region.

Stratigraphy and Chronological Framework

Excavations at Loteshwar revealed four principal cultural layers corresponding to two major occupational phases. These layers not only establish the chronological framework of the site but also provide important insights into shifts in subsistence strategies, technology, and social organization.

1. Mesolithic Phase

The earliest occupation at Loteshwar belongs to the Mesolithic period, dating approximately from 7168 to 4703 BCE. This phase represents a hunter-gatherer society dependent primarily on hunting wild animals, fishing, and collecting plant resources.

The Mesolithic deposit was approximately 60 centimeters thick and rested directly on the stabilized sand dune. No evidence of permanent architecture or built structures was discovered, suggesting that the inhabitants occupied the site seasonally or intermittently rather than permanently.

A particularly important discovery from this phase was the presence of two human burials, which provide rare evidence regarding social and ritual practices. One skeleton was found in an extended position with the hands placed beneath the head and legs slightly bent upward, while the second burial was discovered in a crouched position on the western slope of the mound. The absence of elaborate grave goods suggests relatively simple burial

customs and limited social differentiation.

2. Chalcolithic Phase

Following an occupational hiatus of roughly one thousand years, Loteshwar was reoccupied during the Chalcolithic period (approximately 3706–2243 BCE).

This phase reflects significant social and economic developments. Instead of relying exclusively on hunting and gathering, the inhabitants increasingly practiced pastoralism, food production, pottery making, and small-scale craft activities. Archaeological evidence indicates a transition toward a semi-sedentary agro-pastoral lifestyle.

One of the defining features of the Chalcolithic layers is the presence of numerous pits ranging from approximately 0.5 to 2 meters in diameter and depth. These pits contained ash, pottery fragments, animal bones, and domestic refuse. Although their precise function remains uncertain, scholars suggest that they may have been used for food storage, waste disposal, or communal activities.

The absence of permanent architectural remains suggests that the inhabitants remained semi-nomadic, possibly moving seasonally in response to environmental conditions and resource availability.

Lithic Technology and Stone Tools

The lithic assemblage recovered from Loteshwar represents one of the most important categories of archaeological evidence from the site. Excavations yielded more than 5,000 stone artifacts, demonstrating technological continuity across both occupational phases.

The primary raw materials used in tool production included chert, chalcedony, agate, and carnelian, most of which appear to have been locally available. This suggests substantial on-site production and efficient utilization of natural resources.

Mesolithic stone tools were predominantly microlithic and included:

- Lunates
- Triangles
- Trapeziums

- Scrapers
- Points

These tools were likely used for hunting, skinning animals, cutting meat, and processing plant materials. Their small size and sophisticated craftsmanship reflect highly developed technological skills adapted to a mobile hunter-gatherer economy.

During the Chalcolithic period, lithic traditions continued with notable continuity, although tools became somewhat thicker and more robust. This shift may reflect changing economic requirements associated with pastoralism and early agricultural activities.

A particularly significant observation is the persistence of similar stone-working techniques across both periods, suggesting strong continuity in technological knowledge and the intergenerational transmission of specialized skills.

Pottery and Ceramic Traditions

The Chalcolithic occupation at Loteshwar witnessed the emergence of pottery production, marking an important technological and cultural development. The ceramics are primarily associated with the Anarta cultural tradition, regarded as a distinctive regional cultural complex of North Gujarat.

Several categories of pottery have been identified:

Fine Red Ware

These vessels were well-fired, carefully finished, and often coated with a red slip. Many examples feature black-painted geometric motifs, including:

- Cross-hatched patterns
- Lattice designs
- Wavy lines
- Geometric linear decorations

These ceramics likely served domestic and possibly ceremonial purposes.

Coarse Red Ware

Coarse red ware consisted of thicker, sturdier vessels primarily intended for storage and cooking. Their practical design suggests routine household use.

Black-and-Red Ware

Another important ceramic category is black-and-red ware, produced using specialized firing techniques that created contrasting colors on vessel surfaces. Similar ceramic traditions are found at other prehistoric sites in northwestern India, suggesting regional cultural interactions.

Archaeological analysis demonstrates that Loteshwar’s ceramic assemblage differs considerably from the classic pottery traditions of the major Harappan urban centers. This distinction highlights the persistence of strong local cultural identities despite increasing regional interactions.

Economy and Subsistence Patterns

The economic life of Loteshwar underwent substantial transformations over time.

During the Mesolithic period, subsistence was based primarily on hunting and gathering. Faunal remains indicate that the inhabitants hunted:

- Blackbuck
- Gazelle
- Wild cattle
- Fish
- Turtles

Grinding stones recovered from the site further suggest the processing of wild seeds, grasses, and edible plants.

In the Chalcolithic period, the economy became increasingly diversified. Archaeological evidence demonstrates the domestication and herding of:

- Cattle (*Bos indicus*)
- Sheep
- Goats

The predominance of cattle remains suggests that pastoralism formed the core of the local economy.

Scientific residue analyses of pottery have also revealed evidence for the consumption of pulses, including

possible mung beans and horsegram, as well as small millets. Such dietary practices reflect adaptation to the arid and semi-arid environmental conditions of North Gujarat.

The combination of hunting, animal husbandry, plant processing, and pottery production demonstrates that the Chalcolithic inhabitants of Loteshwar practiced a mixed agro-pastoral economy capable of sustaining life in a challenging ecological setting.

The archaeological discoveries at Loteshwar provide not only evidence of economic and technological developments but also important insights into social organization, ritual behavior, and regional cultural interactions. The site is particularly valuable because it documents a long-term transition from hunter-gatherer communities to agro-pastoral societies, offering a broader understanding of the cultural processes that preceded the emergence of urban civilization in the northwestern subcontinent.

Social Organization and Lifestyle

The absence of permanent architectural remains, large public structures, or organized settlement planning suggests that the inhabitants of Loteshwar lived in relatively small, mobile, or seasonally occupied communities. During the Mesolithic period, survival depended heavily on hunting, water availability, and seasonal access to food resources, making mobility an essential aspect of life.

Social organization during this phase was likely based on small kinship groups or tribal communities, where cooperation in hunting, food sharing, and resource management played a central role in maintaining social cohesion. Archaeological evidence does not indicate significant social stratification, unlike the hierarchical patterns later observed in urban settlements of the Indus Civilization.

With the onset of the Chalcolithic period and the expansion of pastoral and limited agricultural activities, social organization may have become somewhat more structured. The management of domesticated animals, pottery production, and ornament-

making suggests an emerging division of labor and increasing economic specialization.

Burial Practices and Ritual Possibilities

The discovery of two human burials from the Mesolithic phase is particularly significant for understanding the spiritual and ritual dimensions of prehistoric life at Loteshwar.

One burial contained an extended skeleton with the hands placed beneath the head, while another individual was found in a crouched position. Similar burial practices have been documented at several Mesolithic sites elsewhere in South Asia, often interpreted as reflecting symbolic attitudes toward death and ancestral memory.

The absence of elaborate grave goods or prestigious objects suggests relatively egalitarian social relations and simple mortuary traditions. Nevertheless, the deliberate positioning of bodies indicates that death was treated with ritual significance and may have

reflected beliefs concerning the afterlife or the social memory of the deceased.

During the Chalcolithic period, no human burials were identified. However, archaeologists discovered numerous pits filled with ash, pottery fragments, animal bones, and domestic refuse. Although their exact purpose remains uncertain, some scholars propose that these features may have served ritual or communal functions, including food-sharing events, feasting, or symbolic activities associated with pastoral life.

Relationship with the Indus Civilization

Loteshwar is not considered a fully developed Harappan urban settlement, yet it occupies an important place in understanding the cultural evolution that preceded the rise of the Indus Valley Civilization.

The Chalcolithic layers at Loteshwar contain ceramics associated with the Anarta cultural tradition, reflecting a distinct regional identity in North Gujarat. Although the pottery differs substantially from the standardized

ceramic traditions of mature Harappan urban centers, certain technological and cultural similarities suggest regional interactions and gradual cultural convergence.

Compared to major urban sites such as Dholavira, Mohenjo-daro, and Harappa, Loteshwar remained relatively small, seasonal, and non-urban. Nevertheless, it provides crucial evidence for understanding how localized pastoral and subsistence-based communities gradually developed practices that later became foundational to urban civilization.

Particularly noteworthy is the archaeological evidence concerning zebu cattle (*Bos indicus*), which suggests that North Gujarat may have played an important role in early cattle domestication processes. Since cattle later became central to the Harappan economy, Loteshwar may represent one of the regional foundations of this economic transformation.

Recent Scientific Research

Recent interdisciplinary studies have significantly expanded scholarly understanding of foodways and subsistence at Loteshwar.

A major study conducted in 2022 employed residue analysis and starch grain analysis on pottery fragments recovered from Chalcolithic contexts. The results demonstrated that inhabitants consumed:

- Pulses
- Mung beans
- Possible horsegram
- Job’s tears (*Coix lacryma-jobi*)

In addition, traces of animal fats were identified within ceramic vessels, suggesting the preparation of mixed foods involving both plant and animal products.

These findings reveal a highly adaptive subsistence system suited to the arid and semi-arid ecology of North Gujarat. Rather than relying solely on hunting or herding, the inhabitants practiced diversified food procurement and preparation strategies that maximized available environmental resources.

Modern archaeological methodologies—including radiocarbon dating, phytolith analysis, zooarchaeology, residue chemistry, and digital landscape reconstruction—continue to refine chronological understanding and reveal new dimensions of prehistoric adaptation at the site.

Conservation Challenges and Heritage Protection

Despite its archaeological significance, Loteshwar faces several conservation challenges.

Natural erosion of sand dunes, climate change, agricultural expansion, and human disturbance continue to threaten the preservation of the site. Environmental degradation has become particularly concerning because the archaeological deposits are relatively shallow and vulnerable to erosion.

Recent heritage-monitoring projects employing satellite imagery and digital documentation techniques have attempted to assess site deterioration and propose preservation strategies. However, Loteshwar still lacks

comprehensive national-level protection, leaving it vulnerable to long-term damage.

Archaeologists emphasize the urgent need for sustainable conservation policies, systematic documentation, and local heritage awareness initiatives to preserve this important prehistoric landscape for future generations.

Conclusion

Loteshwar stands as one of the most important prehistoric archaeological sites in northwestern South Asia for understanding the gradual transformation of human societies from hunter-gatherer economies to agro-pastoral lifeways. The site demonstrates that the emergence of urban civilization in the Indus region was not an abrupt phenomenon but the result of thousands of years of gradual technological, economic, and social evolution.

The Mesolithic and Chalcolithic remains recovered from Loteshwar—including stone tools, ceramics, burials, faunal remains, and food residues—offer valuable insights into adaptation,

survival strategies, and human-environment interactions in arid landscapes.

In this sense, Loteshwar occupies a critical position not only in the history of Gujarat but also in reconstructing the broader developmental trajectory of the Indus cultural sphere. The site highlights how small, regional communities contributed to the foundations of one of the world’s earliest urban civilizations.

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Lothal

Introduction

Lothal is one of the most significant archaeological sites of the Indus Valley Civilization. It functioned as an advanced ancient port city located in the Bhogava River region, a tributary of the Sabarmati River, connected to the Gulf of Khambhat in present-day Gujarat, India.

Lothal is especially famous for having one of the world’s earliest known dockyards, providing crucial evidence of maritime trade, urban engineering, and economic organization of the Harappan Civilization. The site was occupied

approximately between 2400 BCE and 1600 BCE, reaching its peak during the Mature Harappan Phase.

Lothal was not only a trade hub but also a center of craftsmanship, standardized systems of weights and measures, and long-distance commercial networks. Archaeological findings show strong trade relations with Mesopotamia, Oman, and regions of the Persian Gulf, demonstrating the global character of Harappan commerce.

The city also reflects advanced urban planning, with organized streets, drainage systems, warehouses, workshops, and clearly divided residential and administrative zones.

Geographical Setting and Environmental Context

Lothal is located about 80 km southwest of Ahmedabad in Gujarat, India. Today it lies inland, but in ancient times it was directly connected to the sea through river channels and tidal estuaries.

Paleoenvironmental studies suggest that the region once had navigable

waterways, tidal flats, and estuarine systems that made it highly suitable for port activities. Satellite research indicates that the Sabarmati River once flowed close to the site, providing access to maritime routes.

The fertile alluvial soil supported agriculture, while the coastal environment enabled fishing and trade-based economic activities.

Discovery and Excavation

Lothal was discovered in 1954 by the Archaeological Survey of India during a regional survey of Gujarat. The site was identified by archaeologist S. R. Rao, who recognized its Harappan cultural significance.

Systematic excavations were conducted between 1955 and 1960, revealing major structures such as the dockyard, warehouses, residential areas, workshops, drainage systems, and cemeteries.

Three cultural phases were identified:

1. Mature Harappan Phase

2. Late Harappan Phase
3. Post-Harappan Phase

Artifacts recovered include seals, beads, copper tools, pottery, weights, and inscriptions of the Indus script.

Historical Development

Lothal likely began as a small trading settlement around 2400 BCE and later developed into a major urban port due to its strategic location.

The population is estimated between 5,000 and 15,000 inhabitants. The city shows clear social division, with an elevated acropolis for elites and a lower town for common residents.

Its economy was based on maritime trade, craftsmanship, agriculture, and animal husbandry.

Urban Planning and Architecture

Lothal demonstrates highly advanced urban planning with a grid-based street system. Roads intersected at right angles, ensuring efficient movement, drainage, and city organization.

The city was divided into:

1. Acropolis (Upper Town)
This elevated area was likely used by administrators or elite groups. It contained large buildings and possibly administrative structures.

2. Lower Town
This area housed artisans, merchants, and workers. Houses were well-planned with multiple rooms, courtyards, wells, and bathrooms.

Construction materials and brick sizes were standardized, similar to other Indus cities such as Mohenjo-daro and Harappa.

Drainage System

Lothal had a highly advanced drainage system. Wastewater from houses flowed through covered brick drains into main channels outside the city.

Inspection holes were built into drains for maintenance, showing a sophisticated understanding of urban hygiene.

The Dockyard

The most remarkable feature of Lothal is its dockyard, considered one of the earliest known in the world. It measured approximately 214 meters in length and 36 meters in width.

It was designed to handle tidal fluctuations, possibly using lock-gate systems to control water levels and allow safe docking of ships.

This dockyard connected Lothal to international maritime trade networks across the Arabian Sea.

Warehouse and Trade Infrastructure

A large warehouse near the dockyard was used to store goods for import and export. It was designed to protect materials from moisture and flooding.

This indicates a well-organized trade administration system.

Economy and Industries

Bead Industry:
Lothal was famous for producing beads

made from carnelian, agate, jasper, and other semi-precious stones. A full workshop has been discovered with tools and unfinished beads.

Metallurgy:
Copper tools, weapons, and ornaments were produced using advanced metalworking techniques.

Textile Production:
Spindle whorls suggest cotton spinning and textile production.

Shell Industry:
Shell ornaments such as bangles and jewelry were widely produced for trade and local use.

Maritime Trade

Lothal played a key role in international trade with Mesopotamia, Oman, Bahrain, and other regions.

Exports included beads, textiles, shell ornaments, and pottery, while imports included copper, lapis lazuli, turquoise, and raw materials.

Standardized weights ensured consistency in trade transactions, showing an advanced economic system.

Society and Daily Life

The society of Lothal was organized and structured, with occupational divisions among traders, artisans, administrators, and workers.

Houses were well-designed with courtyards, wells, bathrooms, and drainage systems. Public hygiene appears to have been highly developed.

The diet included wheat, barley, peas, rice (possibly), cattle, sheep, goats, fish, and other marine resources.

Religion and Beliefs

Religious life is not clearly documented, but terracotta female figurines suggest worship of a Mother Goddess associated with fertility.

Some seals depict horned figures, sometimes interpreted as proto-Shiva or Pashupati-like imagery.

Fire altars suggest ritual practices involving fire ceremonies.

Art and Craftsmanship

Lothal produced finely carved seals featuring animal motifs such as the unicorn symbol, along with Indus script inscriptions.

Pottery included geometric designs such as circles, lines, and patterns.

Jewelry was made from gold, silver, copper, shell, ivory, and semi-precious stones.

Technology and Science

Lothal shows advanced knowledge in:

- Hydraulic engineering (dockyard and drainage systems)
- Standardized weights and measures
- Precision bead drilling techniques
- Metallurgical processes for copper and bronze

Decline of Lothal

The decline began around 1900 BCE due to environmental and economic factors:

- River course changes reduced water access
- Silting of the dockyard blocked navigation
- Climate change caused reduced rainfall
- Trade networks weakened

By around 1600 BCE, the city was largely abandoned.

Modern Research and Conservation

Modern studies confirm Lothal’s connection to ancient river channels and maritime systems.

UNESCO has included Lothal in its Tentative World Heritage List.

Conclusion

Lothal represents one of the most advanced urban, economic, and maritime centers of the Indus Valley Civilization. It demonstrates remarkable achievements in urban planning, engineering, trade, and craftsmanship.

It should be regarded not merely as an archaeological site but as a milestone in the history of ancient maritime civilization and global trade networks.

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Lundi Buthi

Abstract

Lundi Buthi is an important prehistoric archaeological site located in Sehwan Taluka of Dadu District, Sindh, Pakistan. Situated on the eastern bank of the Naiṅg stream near the Budo Range, approximately two kilometers southeast of Naiṅg village, the site is distinguished by its remarkably preserved structural form, elevated conical mound, and evidence of habitation. The architectural arrangement of the mound, including multiple stone terraces and indications of an elevated structure at its summit, suggests that the site may have served either a defensive or ceremonial function. Archaeological remains,

including pottery fragments and flint debris, indicate prolonged human occupation and cultural activity. Due to its distinctive characteristics, Lundi Buthi represents a significant site for understanding prehistoric settlement organization and cultural development in Sindh.

Introduction

Lundi Buthi constitutes one of the important prehistoric archaeological sites in Sehwan Taluka, Dadu District, Sindh. Located on the right bank (eastern side) of the Naiṅg stream near the Budo Range, the site lies approximately two kilometers southeast of Naiṅg village. Owing to its distinctive architectural form, settlement remains, and possible ceremonial or defensive significance, Lundi Buthi occupies an important position in the archaeological heritage of Sindh.

The site is particularly significant because its original structural layout appears more clearly preserved than many comparable archaeological locations in the region. The mound’s architectural features, including layered

stone embankments, summit remains, and surrounding habitation evidence, suggest that Lundi Buthi may have functioned not merely as an ordinary settlement but potentially as a site of religious, administrative, or strategic importance.

Geographical Setting and Environmental Context

Lundi Buthi is situated near the Budo Range on the eastern bank of the Naiṅg stream, a geographically advantageous location offering both natural protection and access to water resources. Similar to many prehistoric settlements in Sindh, the location appears to have been deliberately selected for its proximity to a dependable water source, which would have supported domestic life, subsistence activities, and agricultural practices.

The surrounding rocky and mountainous landscape indicates that the inhabitants may have chosen the site due to its environmental security, availability of resources, and favorable topographical conditions. Such strategic settlement placement is characteristic of numerous

prehistoric and protohistoric settlements across Sindh and the broader Indus region.

Architectural Features and Settlement Structure

The most distinctive feature of Lundi Buthi is its conical mound, enclosed by three successive stone walls or terraces constructed one above another. This architectural arrangement suggests deliberate planning and indicates that the site may have served a specialized function.

Archaeological traces visible at the summit indicate the remains of an elevated structure or building. However, based on the site’s overall layout, some scholars have proposed that the structure may not have been a conventional fortification. Instead, its architectural resemblance to Mesopotamian stepped monuments has led to speculation that it may have functioned as a ceremonial or religious structure comparable to a ziggurat-like sanctuary.

If such an interpretation proves accurate through future archaeological investigation, Lundi Buthi could become an important site for comparative studies of ancient architectural and religious traditions between Sindh and Mesopotamia.

Habitation Evidence and Material Culture

To the right side of the mound lies a broad, flat rocky platform that appears to have served as the principal residential area of the settlement. This locality contains abundant archaeological debris, including stone fragments, pottery sherds, broken ceramic vessels, and chipped flint tools. The density of cultural material is so substantial that the surface appears visibly darkened.

These remains indicate prolonged human occupation and suggest that the inhabitants utilized ceramic vessels and lithic tools in their daily activities. The presence of flint implements further suggests engagement in hunting, agriculture, domestic production, or craft-related tasks.

The overall structural organization and layout of the site bear similarities to Danbh Buthi, indicating the possibility of shared architectural traditions or regional cultural continuity within the Sehwan region.

Debate on Ceremonial or Defensive Function

Various interpretations have been proposed regarding the original purpose of Lundi Buthi. On one hand, the elevated mound, layered walls, and strategic location support the argument that the site may have functioned as a defensive refuge or fortified settlement. On the other hand, its conical structure and elevated summit features strengthen the possibility that it served ceremonial or religious purposes.

Local oral traditions maintain that the walls of Lundi Buthi were constructed for defensive purposes, reflecting a long-standing indigenous interpretation of the site as a protective refuge. Nevertheless, without systematic excavation and scientific analysis, definitive conclusions regarding the site's function remain speculative.

Historical and Archaeological Significance

Lundi Buthi represents an important archaeological locality for understanding prehistoric settlement organization and cultural evolution in Sindh. The site’s architectural complexity, habitation evidence, flint tools, ceramic remains, and potential ceremonial structure collectively contribute to its archaeological significance.

Furthermore, the site may hold relevance for examining possible cultural interactions between ancient Sindh and Mesopotamia, particularly in relation to architectural symbolism and ceremonial traditions. Future archaeological excavation and scientific investigation may reveal important new evidence concerning chronology, settlement patterns, and socio-cultural organization in prehistoric Sindh.

Conclusion

Lundi Buthi is a significant prehistoric archaeological site in Sehwan Taluka distinguished by its unique conical mound, layered stone walls, habitation

remains, and material culture. The site’s architectural features suggest that it may have served either a defensive or ceremonial function, making it an important locality for understanding the evolution of settlement patterns and cultural traditions in ancient Sindh. Continued archaeological research at the site may substantially contribute to broader discussions concerning prehistoric civilization and regional interaction networks.

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Lundi Thorhi

Abstract

Lundi Thorhi is an archaeological site located in the Mirpur Mathelo area of northern Sindh, Pakistan. The site is situated between Bazar Lund and Khehi Khenji and is associated with the urban phase of the Indus Valley Civilization. Although systematic excavations have not yet been extensively conducted at the site, surface evidence indicates its

affiliation with the Mature Harappan cultural tradition. The study of Lundi Thorhi contributes to a broader understanding of settlement distribution, regional interaction, and urbanization processes in the Indus Civilization. This article examines the geographical setting, cultural significance, and archaeological context of Lundi Thorhi within the framework of the Indus urban system.

Introduction

The Indus Valley Civilization, one of the world's earliest urban civilizations, flourished across present-day Pakistan and northwestern India between approximately 2600 BCE and 1900 BCE. While major centers such as Mohenjo-daro, Harappa, and Kot Diji have received considerable scholarly attention, numerous smaller settlements remain essential for reconstructing the civilization's regional landscape. Among these lesser-known sites is Lundi Thorhi, located in the Mirpur Mathelo region of Sindh.

The site is noteworthy because archaeological remains found there suggest a connection with the urban phase of the Indus Civilization. Such settlements played an important role in supporting the economic, agricultural, and administrative networks that sustained larger urban centers.

Geographical Setting

Lundi Thorhi is situated in the Mirpur Mathelo Taluka of northern Sindh, between Bazar Lund and Khehi Khenji. The region lies within the broader Indus River basin, an area that provided fertile agricultural land and facilitated communication among settlements.

The strategic location of Lundi Thorhi would have enabled its inhabitants to participate in regional exchange networks connecting rural communities with larger urban centers. Similar settlement patterns have been documented throughout the Indus Civilization, where medium-sized and smaller sites formed an interconnected

hierarchy supporting urban development.

Archaeological Context

Available evidence identifies Lundi Thorhi as a site associated with the Mature Harappan or urban phase of the Indus Civilization. This period represents the apex of Indus cultural development, characterized by planned settlements, standardized pottery, craft specialization, long-distance trade, and sophisticated administrative systems.

Although extensive excavation reports are unavailable, surface remains indicate the presence of cultural material typical of urban Harappan settlements. Such evidence contributes to the growing corpus of archaeological data demonstrating that the Indus urban system extended far beyond its major cities and incorporated numerous secondary and tertiary settlements.

The recognition of Lundi Thorhi as part of this network highlights the density of Harappan occupation in northern Sindh

and underscores the importance of regional surveys in documenting archaeological heritage.

Significance within the Indus Settlement System

The Indus Civilization operated through a complex hierarchy of settlements ranging from major urban centers to villages and specialized activity sites. Archaeologists have argued that smaller settlements played critical roles in agricultural production, resource procurement, and local administration.

Lundi Thorhi may represent one such settlement that contributed to the economic foundation of the broader urban system. The existence of numerous Harappan sites across Sindh demonstrates the extensive integration of communities through shared cultural practices, standardized material culture, and economic exchange.

The study of sites such as Lundi Thorhi is therefore essential for understanding the spatial organization of the Indus

Civilization and the mechanisms that supported urbanism in ancient South Asia.

Future Research Potential

Lundi Thorhi remains insufficiently explored compared to major Indus sites. Future archaeological investigations, including systematic surveys, excavation, ceramic analysis, and geoarchaeological studies, could provide valuable information regarding the site's chronology, function, and relationship with neighboring settlements.

Advanced techniques such as remote sensing, Geographic Information Systems (GIS), and archaeometric analyses may further illuminate the role of Lundi Thorhi within regional settlement networks. Such research would contribute significantly to the archaeology of Sindh and the broader understanding of Indus urbanization.

Conclusion

Lundi Thorhi represents an important yet understudied archaeological site associated with the urban phase of the Indus Valley Civilization. Located in the Mirpur Mathelo region of Sindh, the site contributes to our understanding of the extensive settlement network that supported one of the world's earliest urban civilizations. Although detailed archaeological investigations remain limited, existing evidence indicates that Lundi Thorhi formed part of the Mature Harappan cultural landscape. Continued research at the site has the potential to enhance scholarly knowledge of settlement organization, economic interaction, and cultural development in ancient Sindh.

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